Chapter 3

Affected Environment

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Changes to Chapter 3 between Draft LUPA/EIS and Proposed LUPA/Final EIS

- General corrections (e.g., typographical errors), clarifications, and acreage recalculations were included. No update was available for the tables from "Summary of Science, Activities, Programs and Policies that Influence the Range-Wide Conservation of Greater Sage-Grouse (*Centrocercus urophasianus*)" (Manier et al. 2013).
- The special status species list in Section 3.5.1 was updated.

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Chapter 3. Affected Environment

3.1 Introduction

This chapter documents the existing conditions and trends of resources in the planning area that may be affected by implementing any of the proposed alternatives described in **Chapter 2**, Alternatives. The affected environment provides the context for assessing potential impacts, which are described in **Chapter 4**, Environmental Consequences.

For this LUPA/EIS, the planning area is the entire sub-region within Idaho, southwestern Montana, and the portion of the Sawtooth National Forest within Utah. Specifically, the planning area is the sum of the GRSG population areas within this sub-region, regardless of landownership. **Table 3-1** provides a detailed breakdown of landownership status in the planning area. A map of the planning area is provided in **Chapter 1**, **Figure 1-3**, Planning Area.

The decision area includes the portions of the planning area that are composed of BLM, Forest Service, and Bankhead Jones surface estates, as well as the mineral estates administered by the BLM or Forest Service. Though the planning area includes private lands, direction provided in this LUPA only applies to BLM and Forest Service surface and minerals. Management direction and actions outlined in this EIS apply only to these BLM-administered and National Forest System lands in the planning area and to federal mineral estate under BLM jurisdiction that may lie beneath other surface ownership. The federal government does not always own every type of mineral in a given acre of federal mineral estate. For example, in some areas, the federal government will only own the coal rights, while a private or state entity might own the oil and gas rights. For this reason, the federal mineral estate for any specific mineral type in the decision area is different than that for all other mineral types in the decision area.

While not a part of the planning area in the Idaho and Southwestern Montana GRSG Sub-Region, the Jarbidge and Bruneau Field Offices in Idaho will implement GRSG decisions on 77,800 acres of BLM-administered lands in Elko County, Nevada, located north of the Humboldt-Toiyabe National Forest and south of the Idaho-Nevada state line adjacent to the Bruneau and Jarbidge Field Offices in Idaho. For purposes of the GRSG plan amendments in Idaho and in Nevada, planning for these lands will occur through the Nevada and Northeastern California GRSG LUPA, and the regulatory measures and decisions that are put in place for the GRSG through the ROD will be implemented and administered by the Jarbidge and Bruneau Field Offices in Idaho. Due to their remoteness from other BLM-administered lands in Nevada, and because they are contiguous with major blocks of BLM-administered lands in Idaho, a Memorandum of Understanding (MOU) between BLM Nevada and BLM Idaho transfers administration of those lands to BLM Idaho.

To augment this planning document at a biologically meaningful scale for GRSG, the BER was produced by the USGS for the BLM and Forest Service (Manier et al. 2013). The BER is a science support document that provides information to put planning units and issues

Table 3-1
Acres of GRSG Habitat by Surface Management

Surface Land Management	Acres PPH	Acres PGH	Acres Outside Habitat	Total Acres
BLM Total	**7,272,100**	**1,971,800**	**3,205,100**	**12,449,000**
BLM – Idaho	6,811,400	1,749,900	2,982,900	11,544,200
Bruneau Field Office	1,001,000	184,700	262,900	1,448,600
Burley Field Office	422,000	206,200	206,700	834,900
Challis Field Office	635,600	84,400	72,900	792,900
Four Rivers Field Office	162,200	190,800	901,400	1,254,400
Jarbidge Field Office	765,100	251,900	305,100	1,322,200
Owyhee Field Office	794,600	242,700	222,500	1,259,900
Pocatello Field Office	233,700	87,500	278,800	599,900
Salmon Field Office	311,100	51,600	131,200	493,900
Shoshone Field Office	1,092,500	262,000	368,700	1,723,200
Upper Snake Field Office	1,393,800	187,900	232,600	1,814,300
BLM – Montana	460,600	222,000	222,200	904,800
Dillon Field Office	460,600	222,000	222,200	904,800
Forest Service Total	**962,400**	**898,100**	**11,391,900**	**13,252,400**
Forest Service - Idaho	728,200	664,100	9,718,800	11,111,100
Beaverhead-Deerlodge National Forest	110	30	980	1,120
Sawtooth National Forest	210,100	212,400	1,612,300	2,034,800
Boise National Forest	21,200	56,900	2,182,800	2,260,900
Caribou-Targhee National Forest	148,300	186,400	2,251,300	2,586,000
Salmon-Challis National Forest	348,700	208,300	3,672,400	4,229,400
Forest Service - Montana	162,300	234,000	1,673,100	2,069,400
Beaverhead-Deerlodge National Forest	162,300	234,000	1,673,100	2,069,400
Forest Service - Utah	71,900	0	0	71,900
Sawtooth National Forest	71,900	0	0	71,900
US Fish and Wildlife Service	39,700	11,700	30,000	81,400
National Park Service	27,200	222,700	261,800	511,700
Department of Energy	378,000	182,500	1,670	562,200
Department of Defense	11,100	37,700	78,500	127,400
Bureau of Reclamation	3,250	3,260	109,800	116,300
Indian Tribe	143,900	10,700	189,000	343,600
Idaho State	642,400	377,500	804,500	1,824,400
Montana State	221,665	167,455	431,995	821,115
Utah State	630	0	0	630
Private	2,127,600	1,857,200	9,652,900	13,637,700
Other	87,800	32,200	294,400	414,400
Total Acres:	**11,921,200**	**5,756,600**	**26,164,500**	**43,842,300**

Source: BLM GIS 2015

into the context of the larger WAFWA management zones. The BER examines each threat identified in USFWS' listing decision published on March 15, 2010. For each threat, the report summarizes the current scientific understanding of various impacts on GRSG populations and habitats. When available, patterns, thresholds, indicators, metrics, and measured responses that quantify the impacts of each specific threat are reported. Data from the BER are presented throughout this chapter to illuminate the location (e.g., PPH and PGH), magnitude, and extent of the threats within each WAFWA management zone that comprises the planning area.

Because the BER focuses on threats to GRSG at the WAFWA management zone (or range-wide) scale, it provides biologically meaningful data for larger-scale analyses, such as the cumulative effects analysis for GRSG in **Chapter 5**.

Chapter 3 also presents data that are available at a finer scale than used in the BER's larger-scale, WAFWA management zone focus. These fine-scale, local data are incorporated into the affected environment discussion to complement the BER's biologically meaningful data, characterize the relative contributions of threats in the planning area versus the WAFWA management zones, and to set the stage for the cumulative effects analysis for GRSG (**Chapter 4**). However, it should be noted that the tables presented in the Regional Context discussions of each Chapter 3 resource and resource use discussion are from the BER (Manier et al. 2013) and extend outside of the planning area to WAFWA management zone boundaries. Those tables present information for the WAFWA management zones that would be affected by the direction provided in this sub-regional EIS.

3.1.1 Organization of Chapter 3

Certain types of resources that may be present in the LUPA planning area, such as cave and karst resources, are not addressed in this LUPA because issues relating to the management of these resources were not identified during scoping by the public, or by the BLM or Forest Service as relevant to GRSG, or they are not included in the planning area (e.g., coal). Information from broad-scale assessments was used to help set the context for the planning area. The information and direction for BLM and Forest Service resources and resource uses has been further broken down into fine-scale assessments and information. The level of information presented in this chapter is commensurate with and sufficient to assess potential effects discussed in **Chapter 4**, based on the alternatives presented in **Chapter 2**.

The following resources and resource uses are specifically addressed in **Chapter 3** and **Chapter 4**, of the Idaho and Southwestern Montana Greater Sage-Grouse LUPA/EIS.

- Greater Sage-Grouse
- Vegetation (including noxious weeds; riparian and wetlands)
- Fish and wildlife
- Other special status species
- Wild horse and burro management

- Wildland fire ecology and management
- Livestock grazing
- Recreation
- Travel management
- Lands and realty
- Minerals
    - Leasable minerals
    - Locatable minerals
    - Salable minerals
    - Nonenergy leasable minerals
- Special Designations
    - Designated Wilderness/Wilderness Study Areas
    - Areas of Critical Environmental Concern
    - Research Natural Areas
    - Other special designations
- Soil resources
- Water resources
- Cultural resources and tribal interests
- Visual resources
- Lands with wilderness characteristics
- Air quality and climate change
- Social and economic conditions (including environmental justice)

Each resource section in this chapter contains a discussion of existing conditions, including trends.

- Existing conditions describe the location, extent, and current condition of the resource in the planning area in general, on BLM-administered and National Forest System lands. Conditions for a resource can vary, depending on the resource. The Idaho and Southwestern Montana Sub-Region planning area contains 18,147,500 acres, regardless of land status. Within the Idaho and Southwestern Montana Sub-Region planning area, there are 15,260,200 acres of BLM-administered lands and 1,861,100 acres of National Forest System lands that are managed according to the BLM and Forest Service plans being amended

by this LUPA/EIS. For each resource, a general description of the existing conditions is provided for the Idaho and Southwestern Montana Sub-Region planning area, regardless of land status. This is done to provide a regional context for the resource. More detailed discussion of the existing conditions on various scales may be provided depending on the resource topic. This is done to provide an area-specific description of the existing conditions for the resource. When possible, greater emphasis is placed on describing the existing conditions of the resource as it pertains to GRSG and their habitat.

- Trends identify the degree and direction of resource change between the present and some point in the past. Not all resource topics will have trends. For example, soil resources may not undergo notable resource change. If there is change, the degree and direction of resource change is characterized as moving toward or away from the current desired conditions, and the reasons for the change are identified. Trends can also be described in quantitative or qualitative terms. Identifying the trends is done to provide an understanding of how BLM and Forest Service management influences the desired condition of the resource over time. It can be difficult to analyze trends for certain resources, because changes to the resource often occur due to factors beyond the control of the BLM and Forest Service. For those resource topics that can be affected by climate change, a discussion of the effects from climate change on the resource is provided.

The BLM and Forest Service reviewed the LUPs being amended under this LUPA/EIS and other relevant information sources (such as other LUPAs, maps, and state GRSG conservation assessments) for existing conditions and trends for the resources listed above with respect to GRSG and their habitat. This affected environment information is summarized below and, where appropriate, noted when the information is incorporated by reference.

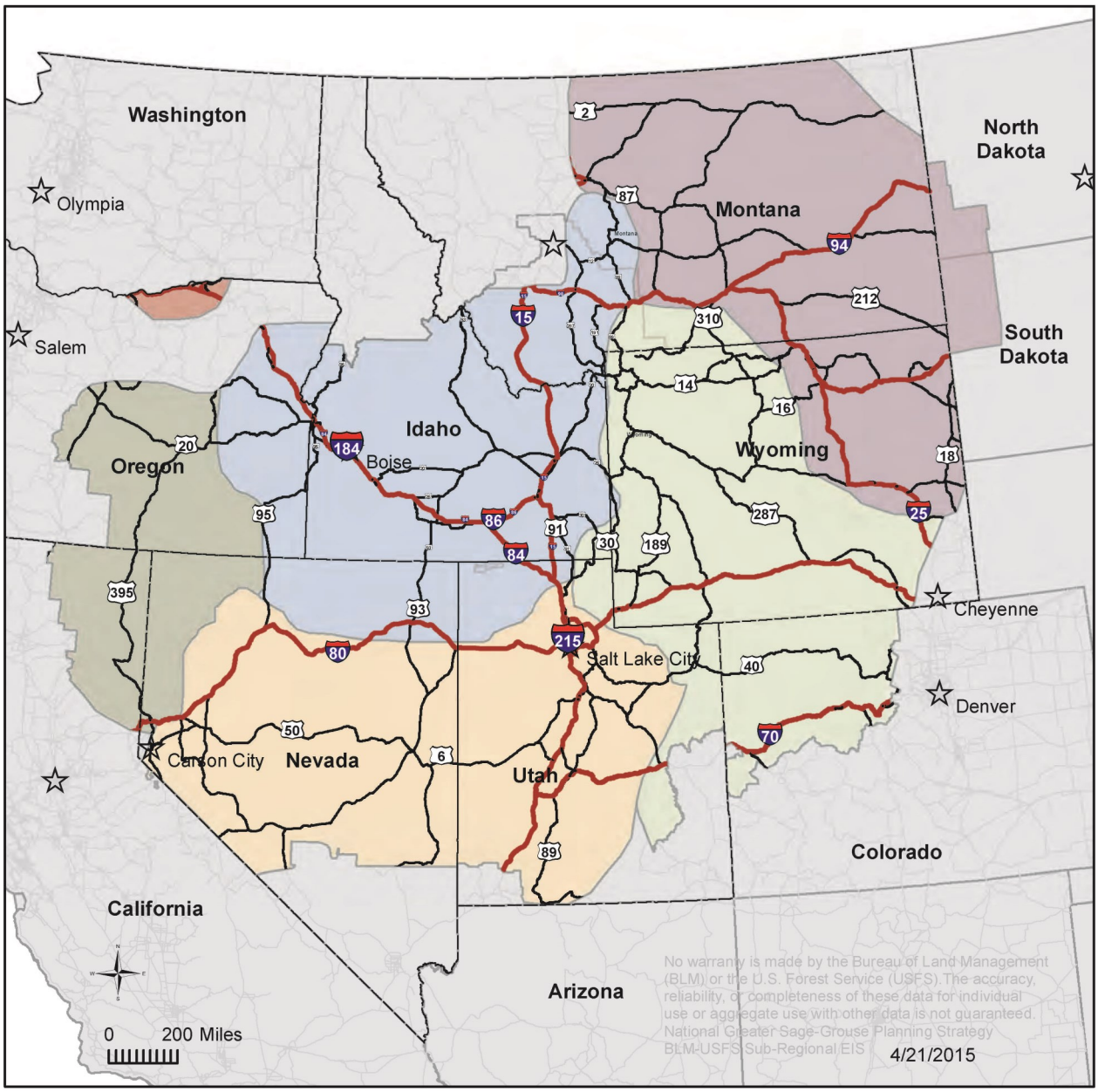
Acreage figures and other numbers used are approximate projections; readers should not infer that they reflect exact measurements or precise calculations. Acreages were calculated using Geographic Information Systems (GIS) technology, and there may be slight variations in total acres between resources.

3.2 Special Status Species – Greater Sage-Grouse

3.2.1 Conditions within the Planning Area

In 2006, the WAFWA used floristic characteristics to organize the diverse sagebrush habitat areas into seven GRSG management zones within the species' distribution (Stiver et al. 2006). The Idaho and Southwestern Montana Sub-Region contains portions of 2 of the 7 zones (MZs II and IV; **Figure 3-1**). The vast majority of the Idaho and Southwestern Montana Sub-Region lies within WAFWA's GRSG MZ IV (Stiver et al. 2006); a small portion of southeastern Idaho occurs within MZ II and is associated with the Wyoming Basin population. Populations of GRSG in MZ IV are projected to decline by 55 percent from 2007 to 2037 and by 66 percent in MZ II if current trends in populations and habitat activities continue (USFWS 2010a; Garton et al. 2011).

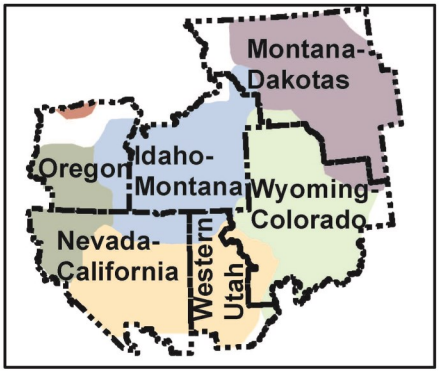
Figure 3-1
Western United States WAFWA Zones



Sub-Regional EIS Boundary

WAFWA Zone

- MZ I
- MZ II and VII
- MZ III
- MZ IV
- MZ V
- MZ VI



GRSG populations have declined range-wide since the late 1800s (USFWS 2010, p. 13921). More recently, Connelly et al. (2004) reported long-term declines (1965 to 2004) for GRSG in MZs II and IV. WAFWA (2008) reported declines from 1965 to 2007 of -2.7 percent in MZ II and 3.8 percent, in MZ IV. Garton et al. (2011) reported annual rates of decline of -3.5 percent in MZ II and -4 percent in MZ IV.

Within the sub-region, GRSG occupy all or portions of ten populations and eight subpopulations described in Connelly et al. (2004). Two large populations (Great Basin Core and Wyoming Basin) encompass portions of Oregon, Nevada, Utah, and Wyoming that extend beyond the sub-regional boundary.

Population estimates are not available for all GRSG populations due to limited data in some areas; however, Garton et al. (2011) estimated a minimum male GRSG population in 2007 of 9,114 for the Northern Great Basin population (analogous to the Great Basin Core population and inclusive of habitats in Idaho and associated portions of Nevada, Oregon, and Utah), and 5,457 for the Snake-Salmon-Beaverhead population. Estimates for the Bannack and Red Rocks Montana populations were 304 and 448 males, respectively. GRSG in southwestern Montana are migratory, moving between separate summer and winter areas. Migratory movements of GRSG also have been documented between eastern Idaho and southwestern Montana from the Bannack and Red Rock populations. Telemetry data from 1999 to 2012 show that seasonal movements (including both distance and duration) vary significantly between groups of GRSG.

Availability of Sagebrush Habitat (Mid-Scale Indicator)

The distribution of GRSG is closely aligned with the distribution of sagebrush-dominated landscapes (Schroeder et al. 2004). Occupancy by GRSG is strongly associated with measures of sagebrush abundance and distribution. Sagebrush area was the single best discriminator between occupied and extirpated ranges among 22 variables evaluated by Wisdom et al. (2011). In the sub-region, large expanses of sagebrush still occur in portions of southwestern and south-central Idaho, in association with the Northern Great Basin population shared with Nevada, Oregon, and Utah, as well as in portions of the Snake-Salmon-Beaverhead population north of the Snake River.

In 2012, the BLM completed the range-wide delineation of PPH and PGH in cooperation with respective state wildlife agencies (see **Figure 1-4**). The BLM national office Instruction Memorandum 2012-043 defined PPH as GRSG habitat having the highest conservation value to maintaining sustainable GRSG populations. PGH includes areas of occupied seasonal or year-round habitat outside of priority habitat.

At finer scales, PPH and PGH encompass areas of intact sagebrush suitable for GRSG habitat needs as well as areas of conifer encroachment and perennial grass-dominated areas, generally occupied by GRSG or potentially suitable for future restoration.

In Idaho, PPH and PGH were identified by the BLM and Forest Service based on a model incorporating GRSG breeding bird density and lek connectivity models, informed with additional ancillary broad-scale habitat data, seasonal habitat maps, connectivity

information/expert opinion, population persistence model, local priority areas, and agriculture/conifer filters (Makela and Major 2012).

In general, GRSG habitats in Idaho and the portion of the Sawtooth National Forest in northern Utah are composed of a variety of species and subspecies of sagebrush, including mountain big sagebrush, Wyoming big sagebrush, Great Basin big sagebrush, low sagebrush, black sagebrush, three-tip sagebrush, and early sagebrush. Conifer encroachment into GRSG habitats, mainly from Utah juniper and western juniper, occurs primarily in south-central and southwestern Idaho and in northern Utah, although encroachment of Douglas-fir and other conifers also occurs at higher elevations. Large areas of native, introduced, or mixed native/introduced perennial grasslands as well as annual grasslands are also present in portions of the Snake River Plain in southern Idaho as a result of recent wildfires and associated rehabilitative efforts or from other rangeland seeding efforts during the 20th century.

In Montana, PPH was delineated based on MFWP prior modeling of GRSG Core Areas using a lek-centric model based on male lek attendance and refined with seasonal habitat, telemetry, connectivity information, and field review. Documentation for the Montana Core area analysis is summarized at:

http://www.mt.nrcs.usda.gov/technical/ecs/biology/sagegrouse/sagegrouse_strategy_attachments/appendix1.html.

Montana PGH was mapped based on the Schroeder et al. (2004) GRSG distribution map.

Sagebrush steppe habitat across southwest Montana consists of diverse species and multiple successional stages, providing for all life stages. Species or subspecies composition consists primarily of mountain big sagebrush, Wyoming big sagebrush, three-tip sagebrush, basin big sagebrush, and low sagebrush, as well as multiple other species at lower densities. These occur in mixed as well as pure stands throughout southwestern Montana. Tilling and aerial spraying over 12,000 acres in the 1960s and early 1970s (about 1 percent of BLM-administered lands in the Dillon Field Office) reduced sagebrush canopy on large areas of BLM-administered, mostly in the area inhabited by the Bannack Population. These areas were reseeded with nonnative herbaceous species that further altered natural communities. Sagebrush canopy has recovered, but the herbaceous understory composition is a mix of native species and nonnative wheat grasses. Large areas of sagebrush in the Dillon Field Office appear to provide suitable habitat for GRSG but are unoccupied.

To facilitate analysis for the Idaho and Southwestern Montana LUPA/EIS, the GRSG population areas were clipped to the Idaho and Southwestern Montana Sub-regional boundary to eliminate portions occurring outside the sub-region. Boundaries were then adjusted to encompass associated PPH and PGH. Small populations within southwestern Montana were combined into a single analysis area and, in portions of Idaho, some subpopulations were delineated separately or grouped due to similarities in threats or geography. The resulting population areas, used in the analysis below, reflect discrete geographic portions of the sub-region.

Based on GIS analysis, there are approximately 18,114,000 acres of PPH and PGH, inclusive of all landownerships, in the sub-regional analysis area (**Table 3-2**). This is inclusive of habitats in Idaho, southwestern Montana, and a small portion of northern Utah administered by the Sawtooth National Forest. The BLM administers approximately 61 percent of PPH

Table 3-2
Acres of GRSG Habitat by Population Area within the Idaho and Southwestern Montana Planning Area

GRSG Population Area and Landownership	Acres of Habitat		
	PPH Acres	PGH Acres	Total Acres
East-Central Idaho	**141,500**	**475,800**	**617,300**
All other	129,200	381,000	510,200
BLM	12,300	23,500	35,800
Forest Service	0	71,300	71,300
Mountain Valleys	**3,182,500**	**856,900**	**4,039,500**
All other	845,600	315,400	1,161,000
BLM	1,880,500	198,700	2,079,200
Forest Service	456,400	342,900	799,300
Southwest Montana	**1,356,900**	**1,633,900**	**2,990,800**
All other	733,400	995,800	1,729,200
BLM	460,600	268,200	728,800
Forest Service	162,900	369,900	532,800
North Side Snake	**2,494,700**	**1,315,300**	**3,810,000**
All other	788,000	735,500	1,523,500
BLM	1,678,100	493889	2,171,600
Forest Service	28,600	85,900	114,500
Southwest Idaho	**2,294,500**	**550,100**	**2,844,600**
All other	498,400	122,500	620,900
BLM	1,796,100	427,700	2,223,700
Forest Service	0	0	0
South Side Snake	**2,081,000**	**921,400**	**3,002,500**
All other	442,900	285,200	728,800
BLM	1,323,700	466,500	1,790,200
Forest Service	314,400	169,700	484,100
Sawtooth	**0**	**37,600**	**37,600**
All other	0	16,100	16,100
Forest Service	0	21,500	21,500
Bear Lake	**118,700**	**63,900**	**182,600**
All other	73,500	36,000	109,500
BLM	43,500	4,690	48,200
Forest Service	1,620	23,100	24,800
Weiser	**262,200**	**346,200**	**608,400**
All other	184,900	211,200	396,200
BLM	77,200	134,900	212,200
Forest Service	0	0	0
Total Acres	**11,932,000**	**6,201,300**	**18,133,300**

Table 3-2
Acres of GRSG Habitat by Population Area within the Idaho and Southwestern Montana Planning Area

Acres of Habitat by Ownership Totals	Habitat		
	Priority	General	Total Acres of Habitat
All other	**3,671,100**	**3,288,300**	**6,959,400**
BLM	**7,266,500**	**1,993,600**	**9,260,100**
Forest Service	**994,400**	**904,500**	**1,898,900**
Total Acres of Habitat	**11,931,900**	**6,186,400**	**18,118,300**

Source: BLM GIS 2015

and 32 percent of PGH within the decision area. The Forest Service administers approximately 8 percent of PPH and 15 percent of PGH.

In addition, the USFWS has identified PACs in their 2013 COT report (USFWS 2013). The overlap between the USFWS PACs and the GRSG Population Areas presented in **Table 3-2** is shown in **Table 3-3**.

Table 3-3
Acres of GRSG Population Areas within PACs

GRSG Population Area	Within PAC (acres)[1]	Outside PAC (acres) [1]
East-Central Idaho	**0**	**115,600**
BLM	0	35,800
Forest Service	0	79,700
Mountain Valleys	**2347,800**	**696,100**
BLM	1,914,900	251,900
Forest Service	432,900	444,200
Southwest Montana	**623,500**	**638,300**
BLM	460,600	268,200
Forest Service	162,900	370,100
North Side Snake	**1,297,500**	**1,391,900**
BLM	1,269,500	89,100
Forest Service	28,000	89,100
Southwest Idaho	**1,870,900**	**717,100**
BLM	1.870.900	717100
Forest Service	0	0
South Side Snake	**1,491,800**	**881,800**
BLM	1,195,700	658,800
Forest Service	296,700	223,000
Sawtooth	**0**	**21,500**
BLM	0	0
Forest Service	0	21,500
Bear Lake	**42,900**	**33,100**
BLM	41,600	9,700

Table 3-3
Acres of GRSG Population Areas within PACs

GRSG Population Area	Within PAC (acres)[1]	Outside PAC (acres)[1]
Forest Service	1,300	23,400
Weiser	**0**	**287,500**
BLM	0	287,300
Forest Service	0	100
Outside Population Area	**0**	**13,254,600**
BLM	0	2,164,100
Forest Service	0	11,090,500
Total	**7,674,400**	**18,037,400**
BLM	6,753,200	5,695,800
Forest Service	921,200	12,341,600

Source: BLM GIS 2015
[1]Totals may not add up exactly due to rounding.

Predation

The GRSG is potential prey to a variety of predator species, such as the golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), common raven (*Corvus corax*), American badger (*Taxidea taxus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), weasels (*Mustela* spp.), and others (Schroeder et al. 1999; Coates 2007), but none of these species prey especially upon GRSG (Hagen 2011). Adults are susceptible to predation while on leks or nests, and eggs are vulnerable as well (Schroeder et al. 1999; Coates 2007; Hagen 2011). Predation is the most commonly identified cause of direct mortality for GRSG during all life stages (Connelly et al. 2011; USFWS 2010a citing others), but studies suggest that predation is not limiting populations (Hagen 2011). As a result, there is little scientific support for predator management over broad geographic or temporal scales (Hagen 2011).

Information on the numbers of GRSG taken by specific predators is not readily available; however, some studies report overall predation rates on age-classes, sex, and nests. Connelly et al. (2000), in a review of long-term data, reported 83 percent of male GRSG deaths and 52 percent of female deaths were attributed to predation. Gregg et al. (2007), cited in USFWS (2010a), reported mortality of GRSG chicks from predation during the first few weeks after hatching was 82 percent. Coates and Delehanty (2010) monitored 87 GRSG nests, and 42.5 percent were preyed upon. Of these nests, an increase of 1 raven per 10 km (3.86 mi) of survey transect monitored was associated with a 7.5 percent increase in the odds of nest failure. Coates (2007) documented predation at 17 GRSG nests; ravens accounted for 10 nests (59 percent) and badgers 7 nests (41 percent).

In areas where habitat is not limited and of good quality, predation is not a threat to the persistence of the species (USFWS 2010a). However, predation may limit population growth in fragmented habitats or areas where predator populations have supplemental food sources, such as where landfills or other human factors attract and concentrate scavengers (Coates 2007), or where electrical transmission or other human-made structures facilitate nesting and perching by avian predators such as ravens (Howe 2012; Hagen 2011).

As land-management agencies, the primary role of the BLM and Forest Service is the management of habitats, land uses, and associated authorizations. Therefore, the reduction of predator effects on GRSG in this conservation strategy is best accomplished through the appropriate management, improvement, or restoration of sagebrush habitats and the siting and design of human-made structures in a way that eliminates or reduces risk from predators that may utilize them to their advantage. Direct predator control would occur under the purview of the states of Idaho and Montana and the USDA APHIS Wildlife Services, in cooperation with the USFWS.

3.2.2 Habitat Conditions and Trends

The general condition and trend of habitats on BLM-administered and National Forest System lands varies by geographic area within the sub-region and is a result of various threats that are currently occurring or that have occurred historically.

In Idaho, threats to GRSG were ranked by an independent science panel and addressed in the *Conservation Plan for the Greater Sage-grouse in Idaho* (Idaho Sage-grouse Advisory Committee 2006). Highest ranking threats, in order of relative score, included wildfire, infrastructure, annual grasslands, livestock impacts, human disturbance, and West Nile virus.

West Nile virus has been a major cause of death for GRSG. It was a major new source of death in low and mid-elevation GRSG populations range-wide from 2003 to 2007 (Walker and Naugle 2011). The highest confirmed elevation at which GRSG have been infected with West Nile virus is approximately 7,500 feet (2,300 meters) in the Lyon-Mono population of eastern California (Naugle et al. 2005). Individual GRSG in populations exposed to the virus from July to August 2003 were 3.3 times more likely to die than birds in uninfected populations (Naugle et al. 2004). West Nile virus deaths of GRSG has ranged from 5 to 44 percent, mostly in July and August (Walker and Naugle 2011; Kaczor 2008). West Nile virus has been documented in GRSG in Idaho; in 2006, the GRSG hunting season was closed in western Owyhee County due to concerns of West Nile virus (Idaho Sage-grouse Advisory Committee 2008).

Additional habitat-associated threats of concern in portions of southern Idaho included conifer encroachment, seeded perennial grasslands, sagebrush control, urban and exurban development, and mines, landfills and gravel pits. In 2012, the Idaho Governor's Sage-Grouse Task force reiterated concerns about wildfire, invasive species and infrastructure, as well as recreation, improper livestock grazing and West Nile virus (Idaho Governor's Sage-grouse Task Force 2012). Landscape conditions and trend of BLM-administered and National Forest System lands in the sub-region are summarized in **Table 3-4**.

3.2.3 Regional Context

As stated above, most of the Idaho and Southwestern Montana planning area is within Management Zone IV; a small portion in the southeast is within MZ II.

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation[a]	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on National Forest System Lands	Primary Threats[a]
East-Central Idaho	96% of habitat overall is 10 to 30% sagebrush cover. Habitat proportion in the 10 to 30% cover range by species or subspecies is a follows: Low Sagebrush 0% Mountain Big Sagebrush 97% Wyoming Big Sagebrush 92%	The BLM administers a small portion of the lands, which are isolated/patchy areas of sagebrush associated with mountain sides or valleys.	Primarily dominated by Wyoming sagebrush with mountain sagebrush in some of the higher elevations; bulbous bluegrass and crested wheatgrass present in understory at many of the lower elevation sites; many of the higher elevation sites have more native understory. Disturbance to the sagebrush canopy varies by site, with some sites having mature sagebrush and others having been burned in the last 10 years. In these burned areas, there is little sagebrush cover present.	Conversion of Conservation Reserve Program lands on private lands Human disturbance Infrastructure Isolated populations Lack of (or limited) information and data on GRSG Urban expansion and development.
Mountain Valleys (Idaho)	Northern valleys portion (e.g., Big Lost/, Little Lost/Pahsimeroi, Birch/Lemhi): 99% of habitat overall is 10 to 30% sagebrush cover, of mixed species or subspecies. Sand Creek portion:	Sagebrush habitats at both lower and higher elevations are generally intact and at lower risk of invasive species and wildfire. In the northern portion (e.g., Challis, Salmon Field Offices), understories of Wyoming big sagebrush	Higher elevation lands are typically more resilient, and generally intact. Sagebrush habitats are generally composed of mountain big sagebrush and low sagebrush. Understories are generally intact and	Infrastructure development, mainly transmission, poses as risk. Habitats in the Challis/Salmon portion also tend to be more linear in configuration due to the orientation of associated mountain ranges and valleys. Impacts from

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation[a]	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on National Forest System Lands	Primary Threats[a]
	93% of habitat overall is 10 to 30% sagebrush cover, of mixed species or subspecies.	habitats have shifted in some areas to predominance by Sandberg's bluegrass in past decades. Population growth is static in the absence of restoration seeding efforts. Higher elevation areas are generally intact, though these areas may be at risk of encroachment by Douglas-fir. In the eastern portion (Upper Snake area), mountain big sagebrush may be exceeding desired densities in some areas, although there is also concern to retain sagebrush due to losses elsewhere. In the western portion (Weiser area), there is a relatively isolated GRSG population facing threats from rapid exurban expansion, interest in gas and geothermal development, and wildfire.	include native grasses and forbs. These areas are resilient following to disturbance and resistant to annual grass invasion. Fire is less frequent than southern Idaho and is not a significant threat at this time.	infrastructure development, roads, and other surface disturbing activities could be more concentrated as a result.

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation[a]	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on National Forest System Lands	Primary Threats[a]
SW Montana (BLM Dillon Field Office and Beaverhead National Forest)	98% of habitat overall is 10 to 30% sagebrush cover of mixed species or subspecies.	High and low elevation sagebrush habitats are largely intact and at low risk of wildfire and invasive species. Diverse habitat conditions are present and are widely interspersed across various ownerships. In the southwest portion of the field office, Wyoming big and mountain big sagebrush habitats were tilled, sprayed, and or seeded with nonnative wheat grasses in the 1960s and 1970s. Sagebrush canopy has recovered but the herbaceous understory composition is a mix of native species and nonnative wheat grasses. There has been little disturbance in sagebrush canopy cover in the last 40 years within the field office. Some loss of high elevation mountain big sagebrush habitat due to Douglas-fir	High and low elevation sagebrush habitats are largely intact and at low risk of wildfire and invasive species. Some habitat conversion has occurred on National Forest System lands but on a smaller scale. Likewise sagebrush canopy cover has recovered but the herbaceous understory composition is a mix of native species and nonnative wheat grasses. There has been little disturbance in sagebrush canopy cover in the last 40 years. Some loss of high elevation mountain big sagebrush habitat due to Douglas-Fir colonization occurring across all federal ownerships in southwestern Montana. Reduction in livestock over the last 10 to 15 years has also improved habitat	Wildfire (Acres lost to wildfire in the past 50 years has been minimal, but the threat is ever present.) Invasive plant species such as spotted knapweed, leafy spurge, hounds tongue, and some cheatgrass present a risk primarily along travel corridors. Conifer colonization in to sagebrush steppe habitat (primarily Douglas-fir) is a threat. Infrastructure/human disturbances (fences, roads, power lines, pipelines) as well as improper grazing, habitat conversion for agricultural needs on private lands, and energy/mineral exploration and development also pose a threat to habitat.

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation[a]	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on National Forest System Lands	Primary Threats[a]
		colonization. Prescribed fire treatments in the past ten years have targeted Douglas-fir colonization to restore high elevation mountain big sagebrush habitats and create a mosaic of seral conditions. Overall riparian and upland habitat conditions are improving due to changes in livestock management in the past ten years.	conditions.	
North Side Snake	74% of habitat overall is 10-30% sagebrush cover. Habitat proportion in the 10-30% cover range by species or subspecies is a follows: Low Sagebrush 100% Mountain Big Sagebrush 86% Wyoming Big Sagebrush	Substantial portions of the Big Desert and Minidoka Desert areas have burned in the past two decades due to large scale, fast-moving wildfires. Some large areas of sagebrush still exist in the western and northern portions but are at risk of wildfire. Most Wyoming big sagebrush habitats are at	N/A. Minimal National Forest System lands involved.	Wildfire poses a significant risk to all habitats in the area. Cheatgrass in lower elevation habitats is at risk of advancing or proliferating following wildfire. Infrastructure development, mainly from proposed transmission lines poses a

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation[a]	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on National Forest System Lands	Primary Threats[a]
	59%	risk of cheatgrass expansion. The trend is for continued rapid loss of large acreages of sagebrush and recent restoration efforts due to continuing wildfires.		risk, generally near the fringe of PPH and PGH. There is some potential for geothermal development in portions of the Shoshone Field Office.
Southwest Idaho	56% of habitat overall is 10-30% sagebrush cover. Habitat proportion in the 10-30% cover range by species or subspecies is a follows: Low Sagebrush 84% Mountain Big Sagebrush 64% Wyoming Big Sagebrush 44%	Large, intact areas of native sagebrush are present, and contiguous with Nevada and Oregon Relatively low level of infrastructure development constitutes the largest remaining intact sagebrush area in the sub-region. Trend is that wildfires continue to impact sagebrush acreage but at a smaller scale and frequency than other areas. Juniper control efforts by BLM and others likely are not keeping pace with expansion.	N/A	Wildfire Juniper encroachment in the western portion Invasive species (cheatgrass, mainly) Infrastructure associated with proposed new transmission lines. Potential for wind energy development in higher elevations such as the Owyhee Mountains. Potential for geothermal energy development in the Bruneau Field Office.

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation[a]	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on National Forest System Lands	Primary Threats[a]
South Side Snake (Includes the Sawtooth National Forest portion in Utah)	55% habitat overall is 10 to 30% sagebrush cover. Habitat proportion in the 10 to 30% cover range by species/subspecies is a follows: Low Sagebrush 64% Mountain Big Sagebrush 55% Wyoming Big Sagebrush 55%	Lower elevation, drier Wyoming big sagebrush habitats are fragmented heavily in many areas due to frequent large wildfires. Cheatgrass poses a risk in the lowest elevations. Higher elevation, mountain big sagebrush sites are generally in good condition. Portions contain large perennial grasslands pending recovery of sagebrush. Trend is toward continuing, rapid loss of sagebrush at relatively large scales in the western portion due to wildfire. Conifer encroachment (primarily Utah juniper) into sagebrush communities is of concern in the southern portion.	Habitats are higher elevation mountain big sagebrush, in relatively good condition; however, they are smaller, fragmented fringes of sagebrush with steeper slopes interspersed between other habitat types. High to moderate risk of near term infrastructure development due to interest in wind energy. Trend in habitat condition (sagebrush) is relatively stable due to lower frequency and smaller scales of wildfires. Conifer encroachment (Utah juniper, mainly) in portions of southern Idaho and northern Utah.	Wildfire poses a substantial threat. Significant acreages within the Jarbidge Field Office, in particular, have burned in the past two decades. High interest in wind development on higher elevation BLM-administered and National Forest System lands (e.g., Cotterel, South Hills, S. Twin Falls County, and Pocatello/American Falls). Urban expansion; potential for oil/gas development in the Bear Lake Plateau. Conifer encroachment, mainly Utah juniper, in the Burley Field Office and Utah portion of Sawtooth National Forest. Cheatgrass expansion in lower elevations (i.e., Wyoming big sagebrush).

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation[a]	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on National Forest System Lands	Primary Threats[a]
Sawtooth	98% of habitat overall is 10 to 30% sagebrush cover of mixed species or subspecies.	N/A	Habitat is primarily higher elevation mountain big sagebrush, generally relatively good condition in the Sawtooth Valley/headwaters of the Salmon River. Includes smaller areas of noxious weeds and/or low diversity of native forbs diversity. Long term trend in areas is downward due to encroachment by Douglas-fir and lodgepole pine. Sawtooth National Forest personnel occasionally observe GRSG. Last documented observation in fall 2010.	Little recent information available on the population, which is apparently isolated from other populations. Last documentation of lek attendance was of 2 male GRSG in 1993 at 1 of the 3 known leks. Conifer encroachment (Douglas-fir, lodgepole pine). Potential concerns with domestic sheep grazing and native forb diversity. Noxious and invasive weeds.
Bear Lake (Idaho portion)	99% of habitat overall is 10 to 30% sagebrush cover, of mixed species or subspecies.	Relatively small area of southeastern Idaho; Sagebrush is largely intact in many areas. Patchy landownership.	The Forest Service administers a limited amount of sagebrush habitat in the Idaho portion of the Bear Lake population area, totaling about 1,391 acres. The majority (1,037 acres) is over 30% canopy cover; the remainder is 10	Some potential for oil/gas development; urban expansion, infrastructure

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation[a]	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on National Forest System Lands	Primary Threats[a]
			to 30%. Wyoming sagebrush transitions to mountain big sagebrush at higher elevations. Sagebrush communities are largely intact with little to moderate amounts of cheatgrass in understory.	
Weiser	72% of habitat overall is 10 to 30% sagebrush cover. Habitat proportion in the 10 to 30% cover range by species or subspecies is a follows: Low Sagebrush 78% Mountain Big Sagebrush 71% Wyoming Big Sagebrush 71%	Sagebrush is largely intact in portions. There are some annual and perennial grasslands in the periphery due to wildfires. Landownership is patchy.	N/A	Exurban development, infrastructure, wildfire; invasive annual grasses
Butte Field Office This area of BLM-administered land is within the sub-regional boundary	Not modeled	Historically, the species was present but breeding has not been documented since 1992. Habitat (sagebrush	Timber harvest has occurred throughout this area, particularly on the north end. There are high	Habitat fragmentation from urban development and roads.

Table 3-4
Habitat Conditions, Trends and Primary Threats to GRSG Habitat in the Idaho and Southwestern Montana Planning Area

Population Area	Existing Condition Based on Modeled Vegetation[a]	Landscape Conditions and Trends on BLM-Administered Lands	Landscape Conditions and Trends on National Forest System Lands	Primary Threats[a]
but Land Use Plans are not being amended.		stands) is widely dispersed and separated, lacking the expansiveness or landscape extent needed for GRSG. The Big Belts are an isolated mountain range on the east side of the Missouri River adjacent to Canyon Ferry reservoir. Foothills are drier with scattered Rocky Mountain juniper and limber pine and a variety of shrubs on some sites. At the lowest elevations the habitat is dominated by grasslands and scattered big sagebrush. Many of these habitats have been converted to dry land grain production and irrigated cropland	road densities in some locations. Fire suppression has led to an increase in forest density and high insect populations as well as colonization of shrublands by juniper and Douglas-fir. The area is dominated by livestock grazing. Many private ranches have sold and subdivided their land.	Wildfire Douglas-fir and juniper colonization of sagebrush stands. Invasive species (mainly Dalmatian toadflax, spotted knapweed, and leafy spurge) Livestock grazing Fences Potential oil and gas development from Birch Creek to Deep Creek, in the Mount Baldy area and the Horseshoe Hills.

Source: BLM 2013j
[a]See **Appendix X**

Management Zone IV (Snake River Plain Management Zone)

Management Zone IV covers nearly all of Idaho's GRSG habitat, with the majority of occupied habitat within the Northern Great Basin (South Side Snake) and Snake River Plain population areas (Mountain Valleys, North Side Snake, and Southwest Idaho), as well as southwestern Montana, on both BLM-administered and National Forest System lands. MZ IV also includes eastern Oregon and northern Nevada, and the Box Elder population in Utah, outside the planning area. This area supports the largest population of GRSG outside of the Wyoming Basin and has high connectivity between populations, though small populations such as Weiser and East-Central Idaho are at risk of fragmentation (USFWS 2013). This MZ population is moderately vulnerable, with a 10.5 percent chance of falling below 200 males by 2037 (Garton et al. 2011). The area has a long history of agricultural land use, which has left the residual sagebrush ecosystem drier than the historical condition (Manier et al. 2013). Across this MZ, 63 percent of land is federally managed. Primary threats include wildfire, infrastructure development, and invasive weeds (USFWS 2013). Fire risk is high across 81 percent of the region, and cheatgrass high risk areas are widespread (Manier et al. 2013). Though oil and gas development potential is low, geothermal energy potential is high along with development of utility infrastructure in designated corridors, such as Gateway West (Manier et al. 2013).

Management Zone II (Wyoming Basin Management Zone)

Management Zone II in Idaho is located in the southeastern part of the state. It covers the portion of the Wyoming Basin (Bear Lake) population area within Idaho. The Wyoming Basin population area stretches into Colorado and Utah and has the highest abundance of GRSG relative to other management zones across GRSG range (more than 20,000 males), one of the largest areas of habitat, and the most highly connected GRSG lek network (USFWS 2013). Although long-term trends are slightly downward, populations in the Wyoming Basin are considered stable, with a 0.3 percent chance of declining below 200 males by 2037 (Garton et al. 2011). The northern portion of this MZ, including the Idaho portion, has high connectivity between habitats across the Wyoming Basin (Knick and Hanser 2011). Federal land comprises 54 percent of sagebrush habitat. The major threat to GRSG in this MZ is energy development, primarily oil and gas, in Wyoming (USFWS 2013). Impacts from infrastructure development, fire, cheatgrass spread, and improper grazing also pose threats in this region (Manier et al. 2013).

Population Metrics

GRSG population estimates for the sub-region or individual population areas are not currently available; however, the Idaho Department of Fish and Game, Montana Department of Fish, Wildlife, and Parks, and Utah Division of Wildlife Resources compile monitoring data annually for hundreds of leks in the sub-region. Not all leks or geographic areas are monitored or surveyed annually or with the same intensity, due to logistical, financial, meteorological, or staffing constraints; however, the leks that are surveyed do provide useful information that can help provide additional context for the description of the affected environment. **Table 3-5** shows the total number of occupied leks and proportion by population area.

Table 3-5
Occupied[a] Leks by GRSG Population Area in the Idaho and Southwestern Montana Sub-Region

Population Area	Number of Occupied Leks[b]	Proportion of Occupied Leks in the Sub-region
East-Central Idaho	15	1.31%
Mountain Valleys	278	24.28%
Southwest Montana	82	7.16%
North Side Snake	344	30.04%
Southwest Idaho	169	14.76%
South Side Snake (Includes the Sawtooth National Forest in Utah)	229	20.0%
Sawtooth	0	0%
Bear Lake	15	1.31%
Weiser	13	1.14%
TOTAL	1,145	100%

[a]Definitions for lek attributes vary by state wildlife agency protocols. For analysis, an "occupied" lek is defined using the respective Idaho, Montana, and Utah definitions to retain the integrity of the state wildlife agency data to the extent possible. In all cases, data shown are inclusive of all landownerships.

Idaho (IDFG): "Occupied" is defined as a lek that has been active during at least one of the past five years. An active lek is one attended by more than one male GRSG during the breeding season (for a particular year). For this analysis, occupied leks encompass the timeframe 2010 to 2014.

Montana (MFWP): "Confirmed Active" is a lek that has been attended during the past 10 years. An active lek is one where there have been two or more males on the site, followed by evidence of lek occupation within 10 years of that observation. For consistency, the term "occupied" is used in this analysis as a synonym for the term "confirmed active." Data shown encompass the time frame 2005 to 2014.

Utah: "Occupied" is defined as a lek that has been active at least once within the last 10 years. An active lek is one that has been attended by two or more males during the annual strutting season. For this analysis, occupied leks encompass the time frame of 2004 to 2013.

[b]Source: Latest IDFG (2014), MFWP (2014) and UDWR (2013) lek datasets

In comparing lek occupancy information between population areas, it is important to recognize that population areas vary greatly in size, with some, such as the Southwest Idaho, South Snake, and North Snake leks, being quite large, while others, such as the Sawtooth, and Bear Lake areas, are considerably smaller. Large areas may inherently harbor a larger number of leks by virtue of their scale, and smaller areas may have fewer leks.

Within the sub-region's population areas, there are 1,145 occupied GRSG leks, inclusive of all landownerships. Of the nine population areas in the sub-region, the North Side Snake, South Side Snake and Mountain Valleys population areas encompass the largest number of occupied leks, collectively harboring approximately 74 percent of the occupied leks in the subregion.

3.3 Vegetation

The composition and distribution of plant communities in the planning area are influenced by many factors, including climate, elevation, topography, soils, drought, insects, fire,

cultivation, invasive plants, and livestock grazing. As a result, a wide variety of plant communities occur, many of which play a role in providing seasonal or year-round habitat for GRSG. The major plant communities providing GRSG habitat are further detailed below. These plant communities vary greatly in their relative ecological health as a result of stressors that influence the distribution and abundance of the plant components within the general community. GRSG are a sagebrush obligate species and rely on a variety of sagebrush dominated communities to meet various needs throughout their lifecycle (Miller et al. 2011). In winter, GRSG feed almost exclusively on sagebrush leaves (Patterson 1952; Wallestad et al. 1975). A healthy vegetative understory complete with perennial grasses and a variety of forbs provide important components of nesting and brood rearing habitat (Barnett and Crawford 1994; Gregg et al. 1994). These vegetative communities also support a wide variety of insects which provide additional food sources for rearing habitat. Some plant communities play a role in seasonal habitat such as riparian areas, or in the case of annual grasses, or conifer stands, may influence the quality and abundance of habitat over time.

3.3.1 Conditions within the Planning Area

Northern Sagebrush-Steppe

Two major sagebrush communities that provide GRSG habitat occur within the planning area: the Snake River Plain and Wyoming Basin. The Snake River Plain sagebrush community makes up the vast majority of the habitat with a small portion of the Wyoming Basin community on the eastern side of the planning area. These communities are considered part of the northern sagebrush-steppe where sagebrush typically co-dominates with perennial bunchgrasses (Miller et al. 2011). Human alterations, uses, and impacts coupled with natural stressors (e.g., drought and fire) have changed the extent, condition, and distribution of sagebrush-steppe and the ecosystem services these communities provide (Meinke et al. 2009); current GRSG range is estimated to be 56 percent of distribution prior to Euro-American contact (Schroeder et al. 2004). Three of the fundamental characteristics of the sagebrush community that have been altered from prior to European contact conditions include: (1) the total area of sagebrush shrublands has been reduced; (2) the composition and structure of sagebrush communities has been changed, with increased abundance and vigor of invasive species and decreased abundance and vigor of native species; and (3) fragmentation created by roads, power-lines, fences, energy developments, urbanization, and other anthropogenic features (Connelly et al. 2004). Much of the sagebrush-steppe occurring on private lands with deeper soils has been converted to agricultural croplands (Connelly et al. 2004). Intense, historic land use in the late 19th and early 20th centuries reduced the dominance of native grasses, trampled microbiotic crusts, and encouraged expansion of Eurasian grasses (Anderson and Inouye 2001; Ponzetti et al. 2007; Root and McCune 2012). These changes are most intense at low elevations near valley floors and may have disproportionate effects on GRSG populations reliant on these habitats during critical portions of the year (Leu and Hanser 2011).

Some portions of the planning area contain relatively intact sagebrush-steppe communities. Plant communities such as these are in good to excellent ecological condition and maintain adequate forb and perennial grass in the understory to supply habitat requirements for GRSG.

Data available for analysis in this effort are limited to general overstory vegetation classes of tall shrub (e.g., basin big sagebrush, Wyoming big sagebrush, and mountain big sagebrush) and low shrub (e.g., black sagebrush and low sagebrush). This information can be further stratified based upon landscape characteristics to approximate the relative proportion of the various types of sagebrush plant communities. Data are not widely available concerning the relative ecological health of the plant communities within the project area.

Riparian and Wetlands

Riparian vegetation includes plants that require higher amounts of available water supply then those found in adjacent upland areas and are generally associated with water courses and wet meadow areas. Riparian areas, wetlands, and wet meadows provide valuable GRSG late summer brood rearing habitat because these areas provide succulent forbs and insects later in the summer when most forbs in upland habitats have dried out and are senescent. These communities make up a small percentage of the vegetation in relation to other types but are quite important in providing the seasonal habitat mentioned.

Forest and Woodland

The conversion of sagebrush-steppe communities into conifer woodlands is a factor contributing to GRSG habitat decline in portions of the planning area. Trees increase raptor perch and nest sites, potentially making GRSG more vulnerable to predation. Conifer expansion is generally attributed to fire suppression reducing fire frequency and allowing conifers to expand into riparian areas, shrublands, and grasslands. This conversion is mostly an issue in the mountain big sagebrush types where reduced fire frequency has allowed the invasion of juniper (Utah, Rocky Mountain, or Western) and in some areas Douglas-fir and pine may be expanding into shrub habitats.

Noxious Weeds and Invasive Species

Noxious weeds and invasive species include plants listed as "noxious" by state laws and also those plants known to be altering the dynamics of native plant communities by replacing native plants through competition or altering some ecological process to the detriment of the native plant community such as in the case of annual bromes increasing fire frequency.

Specific noxious weeds causing localized impacts within the planning area include rush skeletonweed, leafy spurge, diffuse knapweed, and spotted knapweed. Although not yet well established in the planning area, yellow starthistle is known to have a similar range as cheatgrass, and many of the areas currently supporting annual grass communities could support this noxious weed. Other weeds listed as noxious occur within the planning area but are not as widespread or detrimental as those listed.

Invasion by exotic annual grass species has resulted in dramatic increases in number and frequency of fires with widespread, detrimental effects on habitat conditions (Young and Evans 1978; West and Young 2000; West and Yorks 2002; Connelly et al. 2004). Increased fire frequency typically results in removal of the sagebrush canopy in affected areas with replacement by annual species that provide little to no habitat value (Knapp 1996; Epanchin-Niell et al. 2009; Rowland et al. 2010; Baker 2011; Condon et al. 2011). Invasive annuals include numerous species of annual bromes, most notably cheatgrass (*Bromus tectorum*) as well

as medusahead rye (*Taeniatherum caput-medusae*). An annual species that may be a threat in higher elevation communities providing GRSG habitat is ventenata (*Ventenata dubia*). Wyoming sagebrush plant communities are particularly susceptible to conversion to annual grasslands after fire when the understory contains higher densities of annual grass.

Once converted to exotic annual grasses, these plant communities have crossed a threshold that precludes their returning to traditional plant community composition through normal plant succession processes. These areas are essentially lost in their ability to provide GRSG habitat unless significant investment in restoration inputs are undertaken. Even then, these projects may fail if conditions do not exist for successful establishment of desired species. The potential for cheatgrass occurrence has been modeled, which can help discern locations and habitats that have the greatest risk of cheatgrass dominance after disturbance events such as fire.

Modified Grasslands

Some portions of the planning area formerly composed of sagebrush plant communities currently support introduced perennial bunchgrasses or in some cases a mixture of introduced and native bunch grasses. These communities can include common native forbs and over time may develop a sagebrush overstory. Introduced bunchgrasses that may inhabit these areas include a numerous crested wheatgrass varieties (e.g., Fairway, Ephraim, Douglas, Nordan, and Hycrest) as well as Siberian wheatgrass and, in the case of higher precipitation zones, pubescent or intermediate wheatgrass. In some cases, nonnative grasses were seeded to increase livestock forage, but were also be better adapted in competing with and suppressing invasive annual grasses. These plant communities also provide habitat for GRSG once the overstory of sagebrush is re-established.

Permanent Conversion

Within the planning area, portions have been permanently converted to uses that preclude them from providing GRSG habitat. This includes conversion to agricultural lands as well as development or urbanization. In much of the Snake River Plain, these lands were at one time supporting sagebrush plant communities.

3.3.2 Conditions on BLM-Administered Lands

The habitat most important to BLM-administered lands in this planning effort is the overstory vegetation component. As described above, GRSG are a sagebrush obligate species, so an overstory component of sagebrush is a good indicator of potential habitat. Perennial grasslands are also an important component to track as they are still capable of providing habitat if the overstory of sagebrush is returned. Tracking the relative expansion or reduction in annual grass dominated lands is also a potential indicator of our success in protecting GRSG habitat. These broad-scale vegetation types are currently being tracked through various efforts.

Table 3-6 details the acreages in each cover type for BLM-administered and National Forest System lands in the planning area. In addition, **Table 3-6** through **Table 3-13** show the acres of vegetation communities by GRSG analysis area; these numbers were used to support vegetation modeling (**Section 4.2** and **Appendix X**).

Table 3-6
Acres of Vegetation Communities within PPH and PGH on BLM-Administered and National Forest System Lands within the Planning Area

Vegetation Type	PGH (Forest Service)	PGH (BLM)	PGH (Total)	PPH (Forest Service)	PPH (BLM)	PPH (Total)
Sagebrush	441,600	952,500	1,394,100	658,300	5,561,700	6,220,000
Low sagebrush	6,690	55,200	61,900	15,500	751,700	767,200
Mixed sagebrush	301,900	291,200	593,100	455,400	1,871,100	2,326,400
Tall sagebrush	133,000	606,200	739,100	187,400	2,939,000	3,126,400
Perennial grass	17,400	420,600	438,000	22,100	855,900	878,100
Annual grass	190	21,100	21,300	310	51,400	51,700
Conifer encroachment	15,100	117,800	133,000	41,200	178,700	219,900
Crested wheatgrass	2,580	63,300	65,900	2,590	65,200	67,800

Source: BLM GIS 2015

Table 3-7
Acres of Low Sagebrush within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	**30**	**10**
BLM	30	10
Forest Service	0	0
North Side Snake	**3,760**	**66,000**
BLM	740	65,700
Forest Service	3,020	270
Southwest Idaho	**33,600**	**354,200**
BLM	33,600	354,200
Forest Service	0	0
South Side Snake	**1,920**	**45,100**
BLM	1,590	43,400
Forest Service	330	1,660
Southwest Montana	**1,730**	**4,230**
BLM	1,570	4,130
Forest Service	160	100
Bear Lake	**0**	**0**
BLM	0	0
Forest Service	0	0
Mountain Valleys	**7,910**	**280,200**
BLM	4,730	266,700
Forest Service	3,180	13,500
Weiser	**12,900**	**17,500**
BLM	12,900	17,500
Forest Service	0	0
Sawtooth	**0**	**0**
BLM	0	0
Forest Service	0	0
Total	**61,900**	**767,200**
BLM	55,200	751,700
Forest Service	6,690	15,500

Source: BLM GIS 2015

Table 3-8
Acres of Mixed Sagebrush within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	**0**	**0**
BLM	0	0
Forest Service	0	0

Table 3-8
Acres of Mixed Sagebrush within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
North Side Snake	**0**	**0**
BLM	0	0
Forest Service	0	0
Southwest Idaho	**0**	**0**
BLM	0	0
Forest Service	0	0
South Side Snake	**0**	**0**
BLM	0	0
Forest Service	0	0
Southwest Montana	**254,800**	**489,300**
BLM	156,000	400,200
Forest Service	98,800	89,100
Bear Lake	**4,420**	**41,200**
BLM	4,060	40,000
Forest Service	360	1,200
Mountain Valleys	**319,400**	**1,795,900**
BLM	131,200	1,430,800
Forest Service	188,300	365,100
Weiser	**0**	**0**
BLM	0	0
Forest Service	0	0
Sawtooth	**14,500**	**0**
BLM	0	0
Forest Service	14,500	0
Total	**593,100**	**2,326,400**
BLM	291,200	1,871,100
Forest Service	301,900	455,400

Source: BLM GIS 2015

Table 3-9
Acres of Tall Sagebrush within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	**28,200**	**8,660**
BLM	13,500	8,660
Forest Service	14,700	0
North Side Snake	**267,800**	**1,135,500**
BLM	212,300	1,114,100
Forest Service	55,500	21,400

Table 3-9
Acres of Tall Sagebrush within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
Southwest Idaho	**159,900**	**1,146,500**
BLM	159,900	1,146,500
Forest Service	0	0
South Side Snake	**226,700**	**795,000**
BLM	163,900	628,900
Forest Service	62,800	166,100
Southwest Montana	**0**	**0**
BLM	0	0
Forest Service	0	0
Bear Lake	**0**	**0**
BLM	0	0
Forest Service	0	0
Mountain Valleys	**0**	**0**
BLM	0	0
Forest Service	0	0
Weiser	**56,600**	**40,700**
BLM	56,600	40,700
Forest Service	0	0
Sawtooth	**0**	**0**
BLM	0	0
Forest Service	0	0
Total	**739,100**	**3,126,400**
BLM	606,200	2,939,000
Forest Service	133,000	187,400

Source: BLM GIS 2015

Table 3-10
Acres of Annual Grass within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	**80**	**30**
BLM	80	30
Forest Service	0	0
North Side Snake	**7,150**	**6,860**
BLM	7,070	6,860
Forest Service	80	0
Southwest Idaho	**6,540**	**19,200**
BLM	6,540	19,200
Forest Service	0	0

Table 3-10
Acres of Annual Grass within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
South Side Snake	**4,830**	**24,600**
BLM	4,720	24,300
Forest Service	110	310
Southwest Montana	**0**	**0**
BLM	0	0
Forest Service	0	0
Bear Lake	**0**	**0**
BLM	0	0
Forest Service	0	0
Mountain Valleys	**0**	**0**
BLM	0	0
Forest Service	0	0
Weiser	**2,720**	**1,050**
BLM	2,720	1,050
Forest Service	0	0
Sawtooth	**0**	**0**
BLM	0	0
Forest Service	0	0
Total	**21,300**	**51,700**
BLM	21,100	51,400
Forest Service	190	310

Source: BLM GIS 2015

Table 3-11
Acres of Perennial Grass within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	**490**	**10**
BLM	430	10
Forest Service	50	0
North Side Snake	**158,900**	**346,000**
BLM	156,900	344,100
Forest Service	1,980	1,930
Southwest Idaho	**53,100**	**78,900**
BLM	53,100	78,900
Forest Service	0	0
South Side Snake	**191,300**	**418,000**
BLM	178,700	400,200
Forest Service	12,700	17,800

Table 3-11
Acres of Perennial Grass within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
Southwest Montana	**3,470**	**590**
BLM	1,750	530
Forest Service	1,720	60
Bear Lake	**0**	**520**
BLM	0	520
Forest Service	0	0
Mountain Valleys	**2,390**	**29,600**
BLM	1,390	27,300
Forest Service	1,000	2,350
Weiser	**28,300**	**4,460**
BLM	28,300	4,460
Forest Service	0	0
Sawtooth	**20**	**0**
BLM	0	0
Forest Service	20	0
Total	**438,000**	**878,100**
BLM	420,600	855,900
Forest Service	17,400	22,100

Source: BLM GIS 2015

Table 3-12
Acres of Crested Wheatgrass within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	**190**	**10**
BLM	30	10
Forest Service	160	0
North Side Snake	**42,800**	**36,900**
BLM	40,800	36,900
Forest Service	2,000	90
Southwest Idaho	**2,540**	**950**
BLM	2,540	950
Forest Service	0	0
South Side Snake	**16,000**	**27,900**
BLM	15,500	25,400
Forest Service	410	2,500
Southwest Montana	**0**	**0**
BLM	0	0
Forest Service	0	0

Table 3-12
Acres of Crested Wheatgrass within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
Bear Lake	**0**	**0**
BLM	0	0
Forest Service	0	0
Mountain Valleys	**0**	**0**
BLM	0	0
Forest Service	0	0
Weiser	**4,480**	**2,020**
BLM	4,480	2,020
Forest Service	0	0
Sawtooth	**0**	**0**
BLM	0	0
Forest Service	0	0
Total	**65,900**	**67,800**
BLM	63,300	65,200
Forest Service	2,580	2,590

Source: BLM GIS 2015

Table 3-13
Acres of Conifer Encroachment within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
East-Central Idaho	**270**	**10**
BLM	170	10
Forest Service	100	0
North Side Snake	**1,260**	**2,120**
BLM	510	1,870
Forest Service	750	260
Southwest Idaho	**99,100**	**108,400**
BLM	99,100	108,400
Forest Service	0	0
South Side Snake	**28,100**	**105,400**
BLM	16,200	65,700
Forest Service	11,900	39,700
Southwest Montana	**900**	**440**
BLM	370	230
Forest Service	520	200
Bear Lake	**0**	**10**
BLM	0	10
Forest Service	0	0

Table 3-13
Acres of Conifer Encroachment within PPH and PGH on BLM-Administered and National Forest System lands within the Planning Area by GRSG Analysis Area

GRSG Analysis Area	PGH	PPH
Mountain Valleys	**2,380**	**3,390**
BLM	840	2,380
Forest Service	1,540	1,010
Weiser	**740**	**110**
BLM	740	110
Forest Service	0	0
Sawtooth	**320**	**0**
BLM	0	0
Forest Service	320	0
Total	**133,000**	**219,900**
BLM	117,800	178,700
Forest Service	15,100	41,200

Source: BLM GIS 2015

3.3.3 Conditions on National Forest System Lands

In general the plant communities and disturbance factors that influence them are the same on National Forest System lands as on BLM-administered lands. As a general rule, the National Forest System lands with GRSG habitat in the planning area tend to be on the higher end of the precipitation and elevation gradient. Therefore, the relative proportion of sagebrush plant communities on National Forest System lands would be higher for the mountain big sagebrush plant communities, at the higher elevation and precipitation gradient, and lower for Wyoming big sagebrush plant communities which occur at the lower end of the precipitation range for big sagebrush. Due to the more resilient nature of mountain big sagebrush communities after disturbance, it is less likely they will be impacted by invasive annual grass and convert to annual grass plant communities.

3.3.4 Trends

The main disturbance factors with the potential to alter vegetation providing GRSG habitat over a majority of the planning area include conversion to annual grassland following fire disturbance, modification of plant communities due to livestock grazing, and the potential impacts of climate change. To a lesser extent, some permanent conversion to agriculture or urbanization may occur, but typically these areas are already highly disturbed and not likely to be providing high-quality GRSG habitat.

3.3.5 Regional Context

Table 3-14 through **Table 3-16** display acreages for different kinds of vegetation cover in the planning area.

Table 3-14
Acres of Conifer and Pinyon-Juniper Land Cover within GRSG Habitat

Surface Management Agency	Acres within PGH[1]			Acres within PPH[1]		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	174,700	595,500	311,300	397,300	499,700	938,700
Forest Service	191,200	62,300	228,100	150,900	18,200	248,200
Tribal and other Federal	10,400	88,400	11,100	7,700	77,100	10,000
Private	143,700	545,800	295,200	157,400	373,000	427,500
State	40,700	97,800	69,600	56,100	106,600	67,700
Other	2,900	700	2,900	6,400	1,700	6,400

Source: Manier et al. 2013
[1]Includes acres of pinyon-juniper or conifer land cover within 400 feet of GRSG habitat.
[2]BER combined acres for MZs II and VII

Table 3-15
Acres of Cheatgrass Potential within GRSG Habitat

Surface Management Agency	Acres[1] within PGH			Acres[1] within PPH		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	3,053,600	6,325,000	6,234,900	8,022,500	7,091,200	13,995,500
Forest Service	885,700	407,400	1,086,900	927,100	124,100	1,521,600
Tribal and Other Federal	687,800	1,252,100	740,200	946,800	701,900	974,100
Private	2,003,400	6,202,500	4,257,400	2,045,100	5,631,600	5,643,800
State	645,800	861,400	945,500	853,200	1,135,900	1,022,900
Other	54,900	6,000	54,900	93,700	30,100	93,800

Source: Manier et al. 2013
Acreage comprised of areas with a high potential for cheatgrass occurrence.
[2]BER combined acres for MZs II and VII

Table 3-16
Acres of Cropland within GRSG Habitat

Surface Management Agency	Acres[1] within PGH			Acres[1] within PPH		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	14,200	3,200	14,500	11,800	2,100	14,800
Forest Service	1,800	300	1,800	600	0	900
Tribal and Other Federal	1,700	5,200	1,800	500	1,400	500
Private	165,500	385,900	233,600	19,400	106,100	55,200
State	2,700	7,700	4,400	700	3,300	800
Other	1,300	0	1,300	200	100	200

Source: Manier et al. 2013
[1]Based on data provided by the National Agricultural Statistics Service
[2]BER combined acres for MZs II and VII

The BLM-administered and National Forest System lands in the Idaho and Southwestern Montana planning area provide a variety of habitats. Landownership ranges from mostly sagebrush habitats in Owyhee County, Idaho, to scattered BLM-administered and National Forest System lands with intermingled private and state lands composed of sagebrush habitats in southwestern Montana. On BLM-administered and National Forest System lands, these habitats can be segregated into four major habitat groups: sagebrush steppe, riparian/wetlands, nonnative grasslands, and conifer woodlands/forests. These habitats serve as a basis, to the extent practical, for describing existing conditions and for developing and comparing management alternatives throughout the planning effort.

Sagebrush Steppe Habitats

Sagebrush steppe habitats in the planning area are found on the Snake River Plain and minor portions in the Wyoming Basins floristic provinces identified by West (1983). This is the dominant habitat in the planning area. Riparian and wetland habitats, nonnative grasslands, and conifer/woodland forests are interspersed in and next to sagebrush habitats.

Sagebrush habitats occur from lower elevation (2,500 feet) drier salt desert shrub communities to mountain shrub communities at 10,100 feet in elevation. Sagebrush habitats support a wide diversity of generalist wildlife species, as well as sagebrush-dependent wildlife species.

At mid- to lower elevations, Wyoming big and basin sagebrush are the dominant habitat types that provide important winter habitat for such wildlife species as mule deer, pronghorn, and GRSG, and localized yearlong habitat for such sagebrush-obligate species as pygmy rabbit. Much of the basin big sagebrush habitats are limited to deeper soils near ephemeral drainages. Intermingled occurrences of basin big sagebrush, mountain big sagebrush, tall three-tip sagebrush, and several low sagebrush's such as low (little) and black sagebrush, add to the diversity of vegetation and habitat structure. At higher elevations, moist mountain big sagebrush communities provide elk calving and GRSG brood-rearing habitat, along with dispersed spring, summer, and fall habitat for numerous other species, often in association with conifer woodland/forested habitat. Mixed sagebrush communities and localized dominance by other sagebrush species on specific sites in the broader sagebrush types often support uniquely dependent wildlife, such as pygmy rabbits.

Many sagebrush steppe habitats have been modified or disturbed throughout the planning area during the past 150 years; therefore, the species that depend on them have usually been negatively affected. Primary factors changing sagebrush steppe habitats are wildfire and changes in fire regimes, invasive species, developments, and livestock grazing (Miller et al. 2011; Knick et al. 2011). Wildfire and changes in fire regimes affect xeric sagebrush steppe, which is highly influenced by the spread of invasive species, especially exotic annual grasses, such as cheatgrass and medusahead. In these lower elevation habitats, fire return intervals are greatly shortened and prevent sagebrush from reestablishing. Large areas of the Snake River Plain in southern Idaho have undergone these habitat changes, thus making habitats less suitable for wildlife.

Past management activities that reduce sagebrush habitats are herbicide application, plowing, and other techniques, followed by nonnative perennial grass seeding. These land treatments or burned areas following wildfire have historically been seeded by highly competitive introduced species, such as crested wheatgrass, desert wheatgrass, and Siberian wheatgrass. The characteristics that made these introduced species effective for seeding establishment also created communities dominated by near monocultures, which resulted in poor quality habitats for wildlife lacking sagebrush or forbs (Pyke 2011). Recent policies have encouraged native seed mixes, but often native seed supplies are limited or not affordable within current budgets. Seed in some seed mixes used in these treatments may have been selected for other wildlife species and not specifically for GRSG (Knick et al. 2011).

In higher elevations of sagebrush steppe, conifer woodlands/forests have encroached onto sagebrush habitats. Miller and Rose (1999) identified that the encroachment of conifer woodlands/forests was the result of longer fire return intervals that permitted woodlands to expand into sagebrush steppe. The situation of conifers greater than 50 years old on productive sites and greater than 90 years on nonproductive sites results in reduced fire frequency, permitting conifers to become established on the site (Burkhardt and Tisdale 1976; Bunting 1984; Miller and Rose 1999). A number of studies identified a widespread decline in fires at the sagebrush/conifer interface with the coincidence of large numbers of livestock in the late 1800s (Miller and Rose 1999; Heyerdahl et al. 2006; Swetnam et al. 2001). These large numbers of cattle may have reduced the current year's fuel loads and changed the structure and abundance of fuels, thus reducing the frequency of wildfires (Miller et al. 2011). Increased conifer dominance results in a decline of cover by sagebrush and other shrubs.

Development has reduced the extent and quality of sagebrush steppe habitat across much of the planning area. The activities have occurred on private lands but infrastructure to support urbanization and agriculture along the Snake River Plain and other waterways has occurred on BLM-administered and National Forest System lands. Many of these types of facilities or uses are railroads, roads, power lines, pipelines, irrigation canals, communication towers, military training, and off-highway vehicles (Knick et al. 2011).

Livestock grazing is the most widespread land use across sagebrush steppe habitats from the 1880s to present. Livestock numbers and use of these habitats was greatest from the late 1880s through the 1930s. During this period, the greatest change occurred to these habitats as a result of heavy livestock use and drought, which resulted in loss of soil and depleted native vegetation communities that greatly impacted these habitats (Knick et al. 2011). From the 1940s until the 1980s, plowing, herbicides, and burning was followed by seeding nonnative perennial grasses to increase forage for livestock production, thus impacting many sagebrush habitats in southern Idaho.

In recent decades, management emphasis has shifted to maintaining healthy, functioning native ecosystems and reducing the spread of nonnative species. Grazing regulations enacted in 1995 mandated that public land grazing allotments conform to the Fundamentals of Rangeland Health, as well as subsequent standards and guidelines (S&Gs). The regulations also mandate that changes to grazing management be made if livestock management is

determined to be a significant factor in failing to meet Fundamentals of Rangeland Health or S&Gs. Since that time, the BLM has been reviewing rangeland health conditions and modifying livestock grazing management as necessary to conform to the Fundamentals of Rangeland Health and S&Gs. In addition, vegetation has been treated on many allotments to restore functionality of impacted sagebrush steppe habitats. For more information about livestock grazing, see **Section 3.8**, Livestock Grazing.

Riparian/Wetland Habitats

Riparian habitats are regarded as one of the most important for wildlife due the availability of water and the structural diversity of the vegetation communities. Approximately 75 percent of all wildlife species use riparian habitats for at least some portion of their annual life cycle (USEPA 1990). Riparian habitats are estimated to make up approximately 1 percent of all habitats in the planning area. The riparian habitats in the planning area are composed of lotic systems that are associated with running water or lentic/wetland habitats associated with standing water.

Riparian habitats in the planning area have been subject to many activities that have affected their functionality and their ability to support wildlife. These activities include dewatering for irrigation, domestic cattle grazing, road construction, dam construction, and land treatments. These activities change plant species composition and structure, vegetative cover, sedimentation water quality, and temperature and alter streambanks and the duration of available water.

Wildlife habitat values are degraded on riparian habitats with functional-at-risk or nonfunctional conditions. Information on proper functioning condition is not available at the sub-regional planning scale.

Big Game

The planning area hosts a wide variety of big game species—mule deer, pronghorn, and elk—that use habitats associated with sagebrush steppe and riparian habitats. Other big game species in these habitats but in lesser quantities are bighorn sheep, moose, and white-tailed deer. The planning area provides habitat for all seasonal use periods for mule deer, pronghorn, elk, bighorn sheep, and other species. These species are generally widespread across the entire planning area.

Mule deer are the most abundant and widely distributed big game animal. Their populations and habitat have changed greatly during the past 100 years. Loss of shrub-steppe habitats, conversion of native landscapes to agriculture or residential development, and past and current grazing management are key management issues for mule deer populations throughout the planning area (Cox et al. 2009).

Within the planning area mule deer populations vary greatly from current population objectives. In southeast Idaho, populations have declined following the winter of 1992/1993 and have been slow to respond to changes in management (IDFG 2011a). This has resulted in IDFG developing an initiative to target this area of the state to modify management strategies and improve habitat conditions for mule deer. In other portions of the planning

area, including south-central Idaho and southwestern Montana, populations appear to be stable or increasing but are below levels observed in the late 1980s and early 1990s (IDFG 2011a; MFWP 2012).

Mule deer are primarily browsers, and their diet is composed mostly of leaves and twigs of shrubs, especially during the winter. Grasses and forbs are also crucial components of their diet in the spring and summer. The quality and quantity of nutritious forage in spring (April through July) has major implications on the production and survival of fawns. Summer and fall ranges are important because this is where deer produce fat reserves that will allow survival through winter. The quality of summer-fall forage also directly influences pregnancy and ovulation rates and, therefore, fawn production (Cook et al. 2001; Tollefson et al. 2010; Vavra 1992). Much of Idaho's historic mule deer winter range has been developed for other uses and is now occupied by humans. Residential, commercial, and industrial developments in the foothills and at lower elevations have eliminated winter range (IDFG 2011a).

Pronghorn distribution has changed relatively little since the early 1980s, but numbers have trended downward since the winter of 1993/1994 (IDFG 2011b). Pronghorn are typically associated with sagebrush habitats but readily use grasslands if there are adequate amounts of forbs (Yoakum 2004a). In sagebrush habitats, pronghorn diets consist of sagebrush and other shrubs during all seasons, but particularly in the fall and winter (Yoakum 2004a). The species prefers forbs when available (Yoakum 2004b). The availability of forbs in sagebrush habitats may have important implications for pronghorn because they are rich in nutritional values required for reproduction (Pyrah 1987; Yoakum 2004b).

Large landscape-level fires have reduced the availability of sagebrush in parts of pronghorns' range. In portions of the planning area, extensive fencing has contributed to the inability of some populations to access otherwise suitable habitats. Noxious weeds, livestock grazing, and drought has also impacted current pronghorn populations and their habitat.

Elk are found throughout the planning area in sagebrush steppe and associated conifer/forested woodlands. Elk are considered generalists and do not totally depend on sagebrush steppe, but they do require food, water, and where hunted, hiding cover and security areas. The combination of the resources determines the distribution and number of elk within sagebrush steppe. Elk populations in the planning area are generally at or above state wildlife management agencies objectives (IDFG 2011c; MFWP 2004).

Other big game species, such as moose, bighorn sheep, and white-tailed deer, are also found in the planning area. Moose and white-tailed deer are generally associated with riparian/wetland habitats. Bighorn sheep usually are found near escape terrain, composed of steep rugged slopes, and make use of sagebrush steppe year-round in southwest Idaho. In east-central Idaho and southwestern Montana, bighorn sheep generally make use of sagebrush steppe near escape terrain during the winter and spring.

Migratory Birds

There are numerous species of migratory birds that use the planning area during part of the year, including over 40 species of greatest conservation need in Idaho and in Montana

(IDFG 2005; BLM 2006a). These birds are as diverse as the Calliope hummingbird, green-tailed towhee, Brewer's sparrow, ferruginous hawk, mallard, and sandhill crane. Most of these birds are summer residents that use habitats ranging from low elevation wetlands to high elevation forests for breeding and raising young. Some species, such as American robin and mallard, are migratory, but small populations may be present yearlong, depending on seasonal conditions. Winter residents, such as the rough-legged hawk, snow buntings, and rosy-crowned gray finches, arrive from arctic breeding grounds or high elevation alpine areas to use winter habitats in sagebrush steppe, seasonally replacing summer residents.

The 1988 amendment to the Fish and Wildlife Conservation Act mandates that the USFWS "identify species, sub species, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973."

The USFWS's Birds of Conservation Concern 2008 is the most recent effort to carry out that mandate. It identifies those species in greatest need of conservation action in specific geographic bird conservation regions. The planning area overlaps three bird conservation regions: the Great Basin, Northern Rockies, and a very small portion of the Southern Rockies/Colorado Plateau. The list of species likely to inhabit sagebrush steppe and riparian/wetlands of this planning area for these three conservation regions can be found in **Appendix O**. This mandate was emphasized with the issuance of Executive Order 13186, which directs federal land management agencies to develop cooperative plans to protect and manage habitat for all migratory birds. Expansion of funding opportunities under the North American Wetlands Conservation Act and other partnership opportunities through the North American Bird Conservation Initiative will support increased management consideration for these species.

Furbearers/Upland Game/Nongame

A large variety of other wildlife species use sagebrush steppe, riparian/wetland habitats, and nonnative grasslands and conifer woodland/forests habitats in and next to sagebrush steppe in the planning area. Furbearers commonly found in these habitats are red fox, bobcat, muskrat, beaver, and mink. River otter may be present, but the species is generally associated with larger river riparian systems. Cottontail and pygmy rabbits are found throughout the planning area; their numbers are variable because populations are cyclic (USFWS 2010b). Pygmy rabbits, a species of greatest conservation need in Idaho and southwestern Montana, are found in sagebrush habitats with relatively deep, loose soils that provide food and shelter. Upland game birds common or locally abundant in the planning area are Columbian sharp-tailed grouse, pheasant, mourning dove, chukar, gray partridge, California quail, dusky (blue) grouse, and ruffed grouse.

Many other species of nongame wildlife have limited information on their distribution or life history requirements. Information on these species is maintained by the Idaho, Montana, Utah, and Nevada Natural History Programs within each state. Site-specific inventories have not been conducted for many of the species, but information about species distribution and relative abundance continues to be modified as funding becomes available.

Amphibians/Reptiles

Amphibians, specifically frogs and toads, have been recognized as important indicators of ecosystem health, as many populations are declining in the western United States. Amphibians are generally found near some form of water. There are eight species of salamanders, frogs, and toads found in the planning area, including three species of greatest conservation need in Idaho; there are three amphibian species on the BLM special status species list in Montana (IDFG 2005; Montana Natural Heritage Program 2013).

There are 16 species of reptiles in sagebrush habitats and riparian/wetland habitat in the planning area: seven lizard species, one turtle species, and eight snake species. The sagebrush lizard and short-horned lizard are two of the most common species associated with sagebrush habitats. Two snake and two reptile species found in the planning area are species of greatest conservation need in Idaho (IDFG 2005). There are no BLM special status reptile species in the southwestern Montana portion of the sub-region (Montana Natural Heritage Program 2013).

Insects

Insect occurrence and distribution are not generally specifically considered in land management activities. Three species of insects that are identified as sensitive due to their limited distribution occur in or next to sagebrush habitats. These species are Idaho pointheaded grasshopper, St. Anthony Sand Dunes tiger beetle, and Bruneau Dunes tiger beetle (See **Section 3.5**, Other Special Status Species).

Insects provide important food sources for many species of wildlife, including adult and juvenile GRSG. Although there are thousands of species of insects in sagebrush and riparian and wetland habitats, species in the Scarabeidae and Tenebrionidae (beetle) families, Formicidae (thatch ants) family, and Orthopthera (grasshopper) family are a high protein food source of many wildlife species, including GRSG (Klebenow and Gray 1968; Peterson 1970; Johnson and Boyce 1990; Pyle 1993; Fischer 1994; Drut et al. 1994).

3.4 Fish and Wildlife

3.4.1 Terrestrial Wildlife

Conditions within the Planning Area

The BLM and Forest Service manage wildlife habitat, and the state wildlife management agencies manage wildlife populations. These habitats reflect the influence of a variety of past and ongoing human activities and disturbances, resulting in increases in some species populations, declines in others, and the modification of large blocks of habitat. These habitats and the wildlife species that rely on them rarely exist solely on BLM-administered or National Forest System lands, and often extend across administrative boundaries to other federal, state, and private lands. Further information regarding wildlife on National Forest System lands is provided in **Appendix CC**.

3.4.2 Aquatic Wildlife

Conditions within the Planning Area

Fish of interest within the planning area consist primarily of cold-water species. The condition of aquatic habitat is influenced by upland and riparian processes. Uplands influence aquatic habitat primarily through hydrologic processes. For example, the arid nature of the planning area makes the influence of groundwater on surface water particularly important. Therefore, impacts on uplands, such as compaction, that reduce water infiltration have the potential to reduce the amount of groundwater being released into streams. Water in compacted areas can pond on the surface and be lost into the atmosphere through evaporation or be delivered rapidly to channels during high flows. The amount of water and whether it enters stream channels via surface flow or subsurface flow have a significant effect on sediment delivery and deposition, streamside vegetation, and water quality. Riparian areas influence aquatic habitat more directly due to their proximity to water. For example, riparian vegetation shades streams from solar radiation which reduces increases in water temperature, and provides organic material to streams which act as a food source for aquatic macroinvertebrates. Well-vegetated floodplains dissipate energy of flood flows, provide velocity refugia for juvenile and adult fish during flood events, filter sediment during floods, and store water for release during lower flows. Fine sediment deposition within the substrate; and water quality, including, temperature, turbidity, and dissolved oxygen affect fish and fish habitat.

Aquatic habitat within the planning area includes perennial and intermittent streams, springs, lakes, and reservoirs that support fish during at least a portion of the year.

The majority of the planning area within Idaho is within the Snake River basin, while the portion of the planning area within Montana is within the Missouri River basin. The portion of the southeast corner of Idaho is located within the Bear River basin which flows into the Great Salt Lake.

The climate throughout the planning area is generally arid, with runoff being dominated by spring snowmelt. Summer flows are provided by snowmelt, subsurface storage, and thunderstorm events. Native fish species consist primarily of salmonids, sculpin, and minnows, and suckers.

Conditions on BLM-Administered and National Forest System Lands

Fish-bearing streams, and lakes, ponds, and reservoirs within the planning area provide habitat for a variety of native and nonnative game and nongame fish species. **Table 3-17**, displays the various fish species that occur within the planning area.

Table 3-17
Native and Nonnative Fish Species Found within the Planning Area and their Status

Common Name	Scientific Name	Status
Native Fish Species		
Sockeye salmon	*Oncorhynchus nerka*	ESA Endangered
Chinook salmon	*O. tshawytscha*	ESA Threatened

Table 3-17
Native and Nonnative Fish Species Found within the Planning Area and their Status

Common Name	Scientific Name	Status
Steelhead	*O. mykiss*	ESA Threatened
Bull trout	*Salvelinus confluentus*	ESA Threatened
Redband trout	*O. mykiss gairdneri*	BLM Sensitive
Westslope cutthroat	*O. clarki lewisi*	BLM Sensitive
Yellowstone cutthroat	*O. clarki bouvieri*	BLM & Forest Service Sensitive
Bonneville cutthroat	*O. clarki utah*	BLM Sensitive
Bear Lake whitefish	*Prosopium abyssicola*	BLM Sensitive
Bonneville whitefish	*P. spilonotus*	BLM Sensitive
Bonneville cisco	*P. gemmiferum*	BLM Sensitive
Big Lost River whitefish	*P. williamsoni*	Forest Service Sensitive
Mountain whitefish	*P. williamsoni*	No status
White sturgeon	*Acipenser transmontanus*	BLM Sensitive
Bear Lake sculpin	*Cottus extensis*	BLM Sensitive
Shoshone sculpin	*C. greenei*	BLM Sensitive
Wood River sculpin	*C. leiopomus*	BLM Sensitive
Paiute sculpin	*C. beldingii*	No status
Shorthead sculpin	*C. confusus*	No status
Mottled sculpin	*C. bairdii*	No status
Northern leatherside chub	*Lepidomeda copei*	BLM & Forest Service Sensitive
Utah chub	*Gila atraria*	No status
Chiselmouth	*Acrocheilus alutaceus*	No status
Redside shiner	*Richardsonius balteatus*	No status
Speckled dace	*Rhinichthys osculus*	No status
Utah sucker	*C. ardens*	No status
Bluehead sucker	*Catostomus discobulus*	No status
Bridgelip sucker	*C. columbianus*	No status
Largescale sucker	*C. macrocheilus*	No status
Mountain sucker	*C. platyrhynchus*	No status
Nonnative Fish Species		
Brook trout	*S. fontinalis*	No status
Brown trout	*Salmo trutta*	No status
Tadpole madtom	*Notorus gyrimus*	No status
Black bullhead	*Ameiurus melas*	No status
Brown bullhead	*A. nebulosus*	No status
Blue catfish	*Ictalurus furcatus*	No status
Channel catfish	*I. punctatus*	No status
Flathead catfish	*Pylodictis olivaris*	No status
Common carp	*Cyprinus carpio*	No status
Grass carp	*Ctenopharyngodon idella*	No status
Goldfish	*Carassius auratus*	No status
Eastern mosquitofish	*Gambusia holbrooki*	No status
Western mosquitofish	*G. affinis*	No status
Fathead minnow	*Pimephales promelas*	No status
Spottail shiner	*Notropis hudsonius*	No status

Table 3-17
Native and Nonnative Fish Species Found within the Planning Area and their Status

Common Name	Scientific Name	Status
Green swordtail	*Xiphophorus hellerii*	No status
Guppy	*Poecilia reticulata*	No status
Black crappie	*Pomoxis nigromaculatus*	No status
White crappie	*P. annularis*	No status
Yellow perch	*Perca flavescens*	No status
Bluegill	*Lepomis macrochirus*	No status
Green sunfish	*L. cyanellus*	No status
Pumpkinseed	*L. gibbosus*	No status
Largemouth bass	*Micropterus salmoides*	No status
Smallmouth bass	*M. dolomieu*	No status
Walleye	*Sander vitreus*	No status
Muskellunge	*Esox masquinongy*	No status
Northern pike	*E. lucius*	No status
Tiger musky	*E. masquinongy* x *E. lucius*	No status
Convict cichlid	*Archocentrus nigrofasciatus*	No status
Mozambique tilapia	*Tilapia mossambica*	No status
Redbelly tilapia	*T. zilli*	No status
Oriental weatherfish	*Misgumus anguillicaudatus*	No status

Status of Aquatic Species in the Planning Area

The following discussion on status of aquatic species focuses on native species and particularly special status species. Twelve of the seventeen special status species are salmonids, three are sculpin, one is the white sturgeon, and one is the northern leatherside chub. None of the special status species are ubiquitous across the planning area. Each species is found in a particular portion of the planning area with some of the species being endemic to a particular water body or portion of a water body.

Three of the 12 salmonids are anadromous fish found in the BLM Challis and Salmon field offices and the Payette, Salmon-Challis, and Sawtooth national forests, and each is listed under the ESA. Snake River Basin steelhead and Snake River spring/summer-run Chinook salmon are listed as threatened under the ESA and Snake River sockeye salmon are listed as endangered under the ESA. Adults passing Lower Granite dam on the Snake River are counted for all three of these species (Columbia Basin Research 2013). The 10-year average number of adults passing Lower Granite dam from 2003 through 2012 for steelhead is 190,535, for spring/summer-run Chinook salmon is 67,241, and for sockeye salmon is 610.

Bull trout within the planning area are found in the BLM Salmon, Challis, Jarbidge, and Upper Snake field offices and the Boise, Payette, Salmon-Challis, and Sawtooth national forests, and are listed as threatened under the ESA. Bull trout in the planning area largely occupy higher elevation areas with cold water temperatures.

The native range of redband trout within the planning area is the Snake River and its tributaries up to Shoshone Falls and the upper Salmon River basin. The current distribution

of redband trout has been significantly reduced relative to the historical distribution, and it is likely that across its range slightly more than 44 percent of the occupied stream miles contain redband that have been genetically altered due to extensive stocking of hatchery fish (Wild Trout Enterprises 2012). Conditions for occupied redband trout habitat across its range was rated as part of the 2012 redband trout status assessment (Wild Trout Enterprises 2012). Approximately 5 percent of habitats were judged to be in excellent condition, 27 percent were judged to be in good condition, 34 percent in fair condition, 18 percent in poor condition, and 16 percent of the occupied habitats were not rated.

Three cutthroat trout species occur within the planning area: Westslope cutthroat, Yellowstone cutthroat, and Bonneville cutthroat. In Idaho, Westslope cutthroat only occur in the Salmon River portion of the planning area, while they occur in the entire portion of the planning area within Montana. Wild Trout Enterprises (2009) estimated that Westslope cutthroat currently occupy 58 percent of the stream miles they historically occupied across their range. Conditions for occupied Westslope cutthroat habitat across its range were rated as part of the 2009 Westslope cutthroat status assessment (Wild Trout Enterprises 2009). Approximately 18 percent of habitats were judged to be in excellent condition, 41 percent were judged to be in good condition, 24 percent in fair condition, 4 percent in poor condition, and 13 percent of the occupied habitats had an unknown condition. Within the planning area, Yellowstone cutthroat occur in the Snake River system above Shoshone Falls and within the Yellowstone River system. May et al. (2007) determined that Yellowstone cutthroat currently occupy 43 percent of the stream miles they historically occupied. Conditions for occupied Yellowstone cutthroat habitat across its range were rated as part of the 2006 Westslope cutthroat status assessment (May et al. 2007). Approximately 14 percent of habitats were judged to be in excellent condition, 52 percent were judged to be in good condition, 20 percent in fair condition, 5 percent in poor condition, and 9 percent of the occupied habitats had an unknown condition. In the planning area, Bonneville cutthroat trout only occur within the Bear River drainage in southeast Idaho. An adfluvial population occurs in Bear Lake. The range-wide status of Bonneville cutthroat improved considerably from 1980 to 2000 (Lentsch et al. 2000).

Seven of the remaining nine special status fish species are endemics. Four species, Bear Lake whitefish, Bonneville whitefish, Bonneville cisco, and Bear Lake sculpin are endemic to Bear Lake. While the Big Lost River whitefish is endemic to the Big Lost River system, the Shoshone sculpin is endemic to springs and spring creeks in the Hagerman Valley, and the Wood River sculpin is endemic to the Wood River system.

The white sturgeon occurs in the Snake River below Shoshone Falls. Their numbers have been greatly reduced largely due to the lack of passage at dams and reduced spawning habitat due to the reservoirs behind the dams. The sturgeon fishery in the Snake River is popular, but no harvest of white sturgeon is allowed.

The northern leatherside chub has a patchy distribution within the planning area. The species occupies habitat within the Goose Creek and Salt River systems. They are generally found sporadically, in low numbers, and in the presence of other minnow species, such as

redside shiners and speckled dace. The USFWS completed a status review for the species in 2011, and found that they were not warranted for listing under the ESA.

In general, the remaining fish in **Table 3-17** are more broadly distributed within the planning area. Special status aquatic mollusks are discussed in the Special Status Species section of the EIS.

3.5 Other Special Status Species

3.5.1 Conditions within the Planning Area

The list of special status species for BLM-administered lands in Idaho and the Western Montana District; the Beaverhead-Deerlodge, Boise, Caribou, Challis, Payette, Salmon, Sawtooth, and Targhee National Forests; and the Curlew National Grassland includes mammals, birds, reptiles, amphibians, fish, invertebrates, and plants. There are 383 special status species. Of these, 28 species are mammals, 51 are birds, 4 are reptiles, 8 are amphibians, 25 are fish, 21 are invertebrates, and 246 are plants.

The BLM's objectives for special status species are to conserve and recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species, and to initiate proactive conservation measures that reduce or eliminate threats to BLM sensitive species to minimize the likelihood of and need for listing of these species under the ESA. The BLM 6840 Manual, Special Status Species Management, sets policy for the management of candidate species and their habitat. The 6840 manual directs the BLM to undertake conservation actions for such species before listing is warranted and also to "work cooperatively with other agencies, organizations, governments, and interested parties for the conservation of sensitive species and their habitats to meet agreed on species and habitat management goals."

The BLM 6840 Manual requires the BLM to identify strategies, restrictions, management actions, and provisions necessary to conserve or recover ESA-listed species and conserve BLM sensitive species. The 6840 Manual also requires managers to determine to the extent practicable, the distribution, abundance, population condition, current threats, and habitat needs for sensitive species, and evaluate the significance of actions in conserving those species.

Similarly, Forest Service direction for threatened and endangered species is to manage habitats and activities to achieve recovery of these species so that special protection measures provided under ESA are no longer necessary. Direction for sensitive species is to develop and implement management practices to ensure that these species do not become threatened or endangered because of management actions. Additionally, the Forest Service Manual 2670 directs the Forest Service to maintain viable populations of all native and desired nonnative wildlife, fish, and plant species.

Activities within the planning area are likely to primarily affect sagebrush habitat. Areas of conifer encroachment (primarily western or Utah juniper; Douglas-fir in some limited areas) targeted for sagebrush restoration to benefit GRSG will also be affected to varying degrees

depending on time and scale. Therefore, only those species that depend on sagebrush habitat or that are strongly associated with juniper will be analyzed. **Table 3-18** within the Planning Area, identifies these species, their status, and where the designations apply. There are a total of 215 special status species that depend on sagebrush habitat. Of these, 16 species are mammals, 20 are birds, 4 are reptiles, 3 are amphibians, 3 are invertebrates, and 169 are plants.

Table 3-18
Special Status Species within the Planning Area

Common Name (*Scientific Name*)	Status*	Federal Land	
		BLM	Forest Service
Mammals			
Grizzly bear (*Ursus arctos*)	ESA Threatened	X	X
Canada lynx (*Lynx canadensis*)	ESA Threatened	X	X
Southern Idaho ground squirrel (*Spermophilus brunneus endemicus*)	ESA Candidate	X	X
Gray wolf (*Canis lupus*)	BLM & Forest Service Sensitive	X	X
Pygmy rabbit (*Brachylagus idahoensis*)	BLM & Forest Service Sensitive	X	X
Piute ground squirrel (*Spermophilus mollis artemisae*)	BLM Sensitive	X	
California bighorn sheep (*Ovis canadensis californiana*)	BLM Sensitive	X	
Rocky Mountain bighorn sheep (*Ovis canadensis*)	Forest Service Sensitive		X
Cliff chipmunk (*Tamias dorsalis*)	BLM Sensitive	X	
Uinta Chipmunk (*Tamias umbrinus*)	BLM Sensitive	X	
Merriam's ground squirrel (*Spermophilus canus vigilis*)	BLM Sensitive	X	
Wyoming ground squirrel (*Spermophilus elegans nevadensis*)	BLM Sensitive	X	
Great Basin pocket mouse (*Perognathus parvus*)	BLM Sensitive	X	
Little pocket mouse (*Perognathus longimembris*)	BLM Sensitive	X	
Dark kangaroo mouse (*Microdipodops megacephalus*)	BLM Sensitive	X	
Kit fox (*Vulpes velox*)	BLM Sensitive	X	
Birds			
Greater Sage-Grouse (*Centrocercus urophasianus*)	ESA Candidate	X	X
Bald eagle (*Haliaeetus leucocephalus*)	BLM & Forest Service Sensitive	X	X
Golden eagle (*Aquila chrysaetos*)	BLM Sensitive	X	
Upland sandpiper (*Bartramia longicauda*)	BLM Sensitive	X	
Long-billed curlew (*Numenius americanus*)	BLM Sensitive	X	
Peregrine falcon (*Falco peregrinus anatum*)	BLM & Forest Service Sensitive	X	X
Prairie falcon (*Falco mexicanus*)	BLM Sensitive	X	
Ferruginous hawk (*Buteo regalis*)	BLM Sensitive	X	
Swainson's hawk (*Buteo swainsoni*)	BLM Sensitive	X	
Columbia sharp-tailed grouse (*Tympanuchus phasianellus columbianus*)	BLM & Forest Service Sensitive	X	

Table 3-18
Special Status Species within the Planning Area

Common Name (*Scientific Name*)	Status*	Federal Land	
		BLM	Forest Service
Mountain quail (*Oreotyx pictus*)	BLM & Forest Service Sensitive	X	X
Calliope hummingbird (*Stellula calliope*)	BLM Sensitive	X	
Loggerhead shrike (*Lanius ludovicianus*)	BLM Sensitive	X	
McCown's longspur (*Calcarius mccownii*)	BLM Sensitive	X	
Sage sparrow (*Amphispiza belli*)	BLM Sensitive	X	
Brewer's sparrow (*Spizella breweri*)	BLM Sensitive	X	
Sage thrasher (*Oreoscoptes montanus*)	BLM Sensitive	X	
Black-throated sparrow (*Amphispiza bilineata*)	BLM Sensitive	X	
Bobolink (*Dolichonyx oryzivorus*)	BLM Sensitive	X	
Burrowing owl (*Athene cunicularia*)	BLM Sensitive	X	
Reptiles			
Mojave black-collared lizard (*Crotaphytus bicinctores*)	BLM Sensitive	X	
Longnose snake (*Rhinocheilus lecontei*)	BLM Sensitive	X	
Western ground snake (*Sonora semiannulata*)	BLM Sensitive	X	
Common garter snake (*Thamnophis sirtalis*)	BLM Sensitive	X	
Amphibians			
Western toad (*Bufo boreas*)	BLM Sensitive	X	
Woodhouse toad (*Bufo woodhousii*)	BLM Sensitive	X	
Plains spadefoot (*Spea bombifrons*)	BLM Sensitive	X	
Columbia spotted frog (*Rana luteiventris*)	BLM & Forest Service Sensitive	X	X
Invertebrates			
Idaho point-headed grasshopper (*Acrolophitus pulchellus*)	BLM Sensitive	X	
St. Anthony sand dunes tiger beetle (*Cicindela arenicola*)	BLM Sensitive	X	X
Bruneau Dunes tiger beetle (*Cicindela waynei waynei*)	BLM Sensitive	X	X
Plants			
Goose Creek milkvetch (*Astragalus anserinus*)	ESA Candidate	X	X
Packard's milkvetch *(Astragalus cusickii* var. *packardiae)*	ESA Candidate	X	
Christ's Indian Paintbrush (*Castilleja christii*)	ESA Candidate		X
Slickspot peppergrass (*Lepidium papilliferum*)	ESA Proposed	X	X
Cusick's horse-mint (*Agastache cusickii)*	BLM & Forest Service Sensitive	X	X
Western boneset (*Agertina occidentalis* = *Eupatorium occidentale*	BLM & Forest Service Sensitive	X	X
Pink agoseris, Mill Creek agoseris (*Agoseris lackschewitzii*)	BLM Sensitive	X	
Aase's onion (*Allium aaseae*)	BLM Sensitive	X	
Tapertip onion (*Allium acuminatum)*	BLM & Forest Service Sensitive	X	X
Two-headed onion (*Allium anceps*)	BLM Sensitive	X	
King's angelica, Great Basin angelica (*Angelica kingii*)	BLM & Forest Service Sensitive	X	X

Table 3-18
Special Status Species within the Planning Area

Common Name (*Scientific Name*)	Status*	Federal Land	
		BLM	Forest Service
Coral lichen (*Aspicilia rogerii*)	BLM Sensitive	X	
Challis milkvetch (*Astragalus amblytropis*)	BLM Sensitive	X	
Lost River milkvetch (*Astragalus amnis-amissi*)	BLM Sensitive	X	
Lemhi milkvetch (*Astragalus aquilonius*)	BLM & Forest Service Sensitive	X	X
Sweetwater milkvetch (*Astragalus aretiodes* = *Orophaca aretioides*)	BLM Sensitive	X	
Mourning milkvetch (*Astragalus astratus* var. *inseptus*)	BLM Sensitive	X	
Barr's milkvetch (*Astragalus barrii*)	BLM & Forest Service Sensitive	X	X
Painted milkvetch (*Astragalus ceramicus* var. *apus*)	BLM Sensitive	X	
Stiff milkvetch, Idaho milkvetch (*Astragalus conjunctus*)	BLM Sensitive	X	
Lesser rushy milkvetch (*Astragalus convallarius* var. *convallarius* = *A. junciformis*)	BLM Sensitive	X	
Barren milkvetch (*Astragalus cusickii* var. *sterilis*)	BLM & Forest Service Sensitive	X	X
Meadow milkvetch (*Astragalus diversifolius*)	BLM Sensitive	X	
Geyer's milkvetch (*Astragalus geyeri*)	BLM Sensitive	X	
Tufted milkvetch, Plains milkvetch (*Astragalus gilviflorus*)	BLM Sensitive	X	
Starveling milkvetch (*Astragalus jejunus* var. *jejunus*)	BLM & Forest Service Sensitive	X	X
Mulford's milkvetch (*Astragalus mulfordiae*)	BLM & Forest Service Sensitive	X	X
Newberry's milkvetch (*Astragalus newberry* var. *castoreus*)	BLM Sensitive	X	
Picabo milkvetch (*Astragalus oniciformis*)	BLM Sensitive	X	
Wind River Astragalus (*Astragalus oreganus*)	BLM Sensitive	X	
Payson's milkvetch (*Astragalus paysonii*)	BLM & Forest Service Sensitive	X	X
Snake River milkvetch (*Astragalus purshii* var. *ophiogenes*= *A. ophiogenes*)	BLM Sensitive	X	
Bitterroot milkvetch (*Astragalus scaphoides)*	BLM & Forest Service Sensitive	X	X
Railhead milkvetch (*Astragalus terminalis*)	BLM Sensitive	X	X
Four-wing milkvetch (*Astragalus tetrapterus*= *A. cinerascens*)	BLM Sensitive	X	
Mudflat milkvetch (*Astragalus yoder-williamsii*)	BLM Sensitive	X	
Large-leaved balsamroot (*Balsamorhiza macrophylla)*	BLM & Forest Service Sensitive	X	X
King's desert grass (*Blepharidachne kingii*)	BLM & Forest Service Sensitive	X	X
Daggett rock cress (*Boechera demissa* = *Arabis demissa* var. *languida*)	BLM Sensitive	X	
Sapphire rockcress (*Boechera fecunda* = *Arabis fecunda)*	BLM & Forest Service Sensitive	X	X

Table 3-18
Special Status Species within the Planning Area

Common Name (*Scientific Name*)	Status*	Federal Land	
		BLM	Forest Service
Peculiar moonwort (*Botrychium paradoxum)*	BLM & Forest Service Sensitive	X	X
Blue gramma (*Bouteloua gracilis*)	BLM Sensitive	X	
Mohave brickellbush (*Brickellia oblongifolia)*	BLM Sensitive	X	
Beautiful bryum (*Bryum calobryoides*)	BLM Sensitive	X	
Fringed redmaids (*Calandrinia ciliata*)	BLM Sensitive	X	
Cusick's camas (*Camassia cusickii*)	BLM Sensitive	X	
Obscure evening primrose (*Camissonia andina* = *Oenothera andina*)	BLM Sensitive	X	
Small camissonia (C*amissonia parvula* = *Oenothera parvula*)	BLM Sensitive	X	
Winged-seed evening primrose (*Camissonia pterosperma* = *Oenothera pterosperma*)	BLM & Forest Service Sensitive	X	X
Idaho sedge (*Carex idahoa* = C. *parryana* ssp. *Idahoa*)	BLM & Forest Service Sensitive	X	X
Earth lichen (*Catapyrenium congestum*=*Heteroplacidium congestum*)	BLM Sensitive	X	
Mahala mat (*Ceanothus prostratus*)	BLM Sensitive	X	
Cusick's false yarrow (*Chaenactis cusickii*)	BLM Sensitive	X	
Desert pincushion (*Chaenactis stevioides*)	BLM Sensitive	X	
Birchleaf mountain-mahogany (*Cercocarpus montanus*)	BLM Sensitive	X	
Lancefeaf springbeauty (*Claytonia multiscapa* var. *flava* = *C. lanceolata* var. *multiscapa*)	BLM Sensitive	X	
Yellow bee plant (*Cleome lutea*)	BLM Sensitive	X	
Twisted/Alkali cleomella (*Cleomella plocasperma*)	BLM Sensitive	X	
Short-spored jelly lichen (*Collema curtisporum*)	BLM Sensitive	X	
Uinta Basin cryptantha (*Cryptantha breviflora*)	BLM Sensitive	X	
Tufted cryptantha (*Cryptantha caespitosa*)	BLM Sensitive	X	
Malheur cryptantha (*Cryptantha propria* = *Oreocarya propria*)	BLM Sensitive	X	
Miner's candle (*Cryptantha scoparia)*	BLM Sensitive	X	
Silky cryptantha (*Cryptantha sericea* = *Oreocarya sericea*)	BLM Sensitive	X	
Sepal-tooth dodder (*Cuscuta denticulata*)	BLM Sensitive	X	
Greeley's wavewing (*Cymopterus acaulis*, var. *greeleyorum*)	BLM Sensitive	X	
Ibapah springparsley (*Cymopterus ibapensis* = *Epallageiton ibapensis*)	BLM Sensitive	X	
California damasonium (*Damasonium californicum*= *Machaerocarpus californicus*)	BLM Sensitive	X	
Silver-skin lichen (*Dermatocarpon lorenzianum*)	BLM Sensitive	X	
Doublet (*Dimeresia howellii*)	BLM & Forest Service Sensitive	X	X
Bacigalupi's downingia (*Downingia bacigalupii*)	BLM Sensitive	X	

Table 3-18
Special Status Species within the Planning Area

Common Name (*Scientific Name*)	Status*	Federal Land	
		BLM	Forest Service
Harlequin calicoflower, Parti-color Dowingia (*Downingia insignis*)	BLM Sensitive	X	
Pointed draba, Beavertip draba, Rockcress draba (*Draba globosa = D. apiculata*)	BLM Sensitive	X	
White false tickhead (*Eatonella nivea*)	BLM Sensitive	X	
Swamp willow-herb (*Epilobium palustre*)	BLM Sensitive	X	
Rabbitbrush goldenweed, Bloomer's goldenweed (*Ericameria bloomeri =Haplopappus bloomeri*)	BLM Sensitive	X	
Windward's goldenbush (*Ericameria discoidea* var. *winwardii =Ericameria winwardii*)	BLM Sensitive	X	
Linearleaf fleabane (*Erigeron linearis*)	BLM Sensitive	X	
Matted buckwheat (*Eriogonum caespitosum)*	BLM Sensitive	X	
Welsh's buckwheat (*Eriogonum capistratum* var. *welshii*)	BLM Sensitive	X	
Great Basin desert buckwheat (*Eriogonum desertorum*)	BLM Sensitive	X	
Hooker's buckwheat (*Eriogonum hookeri*)	BLM & Forest Service Sensitive	X	X
Calcareous buckwheat (*Eriogonum ochrocephalum* var. *calcareum*)	BLM Sensitive	X	
Packard's buckwheat (*Eriogonum shockleyi* var. *packardiae*)	BLM Sensitive	X	
Shockley's matted buckwheat (*Eriogonum shockleyi* var. *shockleyi*)	BLM Sensitive	X	
Railroad Canyon wild buckwheat (*Eriogonum soliceps)*	BLM Sensitive	X	
Cushion cactus/spinystar (*Escobaria vivipara* var. *vivipara=Coryphantha vivipara*)	BLM Sensitive	X	
White-margined wax plant (*Glyptopleura marginata*)	BLM Sensitive	X	
Spiny hopsage (*Grayia spinosa)*	BLM Sensitive	X	
Cronquist's forget-me-not (*Hackelia cronquistii = H. patens*)	BLM Sensitive	X	
Bug-leg goldenweed (*Haplopappus insecticruris= H. integrifolius*)	BLM Sensitive	X	
Prostate huchensia (*Hornungia procumbens = Hutchinsia procumbens*)	BLM Sensitive	X	
Cooper's rubber-plant (*Hymenoxys cooperi* var. *canescens = Actinea canescens*)	BLM Sensitive	X	
Large Canadian St. John's wort (*Hypericum majus = H. canadense* var. *majus*)	BLM Sensitive	X	
Ballhead ipomopsis (*Ipomopsis congesta* ssp. *crebrifolia)*	BLM Sensitive	X	
Spreading gilia (*Ipomopsis polycladon= Gilia polycladon*)	BLM & Forest Service Sensitive	X	X
Davis' peppergrass (*Lepidium davisii= L. montanum*)	BLM Sensitive	X	
Thick-leaf pepperweed (*Lepidium integrifolium*)	BLM Sensitive	X	
Pryor Mountain bladderpod (*Lesquerella lesicii*)	BLM Sensitive	X	
Middle Butte bladderpod (*Lesquerella obdeltata*)	BLM Sensitive	X	

Table 3-18
Special Status Species within the Planning Area

Common Name (*Scientific Name*)	Status*	Federal Land	
		BLM	Forest Service
Sacajawea's bitterroot (*Lewisia sacajaweana*)	BLM & Forest Service Sensitive	X	X
Nuttall desert-parsley (*Lomatium nuttallii*)	BLM Sensitive	X	
Packard's desert parsley (*Lomatium packardiae*)	BLM Sensitive	X	
Inch-high lupine (*Lupinus uncialis*)	BLM & Forest Service Sensitive	X	X
Torrey's desert dandelion (*Malacothrix torreyi = M. sonchoides* var. *torreyi)*	BLM Sensitive	X	
United blazingstar (*Mentzelia congesta*)	BLM Sensitive	X	
Smooth stickleaf (*Mentzelia mollis*)	BLM Sensitive	X	
Leafy nama (*Nama densum)*	BLM Sensitive	X	
Green needlegrass (*Nassella viridula =Stipa viridula*)	BLM Sensitive	X	
Rigid threadbush (*Nemacladus rigidus*)	BLM Sensitive	X	
Saint Anthony evening-primrose (*Oenothera psammophila*)	BLM Sensitive	X	
Challis crazyweed (*Oxytropis besseyi* var. *salmonensis = O. nana* var. *salmonensis*)	BLM Sensitive	X	
Creeping nailwort (*Paronychia sessiliflora*)	BLM & Forest Service Sensitive	X	X
Simpson's hedgehog cactus (*Pediocactus simpsonii*)	BLM Sensitive	X	
Idaho penstemon (*Penstemon idahoensis*)	BLM Sensitive	X	
Janish's penstemon (*Penstemon janishiae*)	BLM & Forest Service Sensitive	X	X
Lemhi beardtongue (*Penstemon lemhiensis*)	BLM & Forest Service Sensitive	X	X
Short-lobed penstemon (*Penstemon seorsus*)	BLM Sensitive	X	
Indian apple, Wild crab apple (*Peraphyllum ramosissimum*)	BLM Sensitive	X	
Spine-noded milkvetch (*Peteria thompsoniae= P. nevadensis*)	BLM Sensitive	X	
Obscure phacelia (*Phacelia inconspicua*)	BLM Sensitive	X	
Malheur yellow phacelia (*Phacelia lutea* var. *calva*)	BLM Sensitive	X	
Least phacelia, Small-flower phacelia (*Phacelia minutissama*)	BLM Sensitive	X	
Idaho twinpod, Salmon twin bladderpod (*Physaria didymocarpa* var. *lyrata*)	BLM Sensitive	X	
Small-flowered ricegrass (*Piptatherum micranthum = Oryzopsis micrantha*)	BLM & Forest Service Sensitive	X	X
Thorn skeleton weed (*Pleiaranthus spinosa = Stephanomeria spinosa = Lygodesmia spinosa*)	BLM Sensitive	X	
Platte cinquefoil (*Potentilla plattensis*)	BLM Sensitive	X	
Alkali primrose (*Primula alcalina*)	BLM Sensitive	X	
Cusick's primrose (*Primula cusickiana)*	BLM Sensitive	X	
Turtleback, Annual brittlebrush (*Psathyrotes annua = Bulbostylis annua*)	BLM Sensitive	X	

Table 3-18
Special Status Species within the Planning Area

Common Name (*Scientific Name*)	Status*	Federal Land	
		BLM	Forest Service
Dwarf wooly-heads (*Psilocarphus brevissimus*)	BLM & Forest Service Sensitive	X	X
Beartooth large-flowered goldenweed (*Pyrrocoma carthamoides* var. *subsquarrosa* = *haplopappus carthamoides* var. *subsquarrosus*)	BLM & Forest Service Sensitive	X	X
Thinleaf goldenhead (*Pyrrocoma linearis* = *Haplopappus uniflorus* var. *howellii*)	BLM Sensitive	X	
Snake River goldenweed, Radiate goldenweed (*Pyrrocoma radiata* = *Haplopappus raidatus*)	BLM Sensitive	X	
White grouse pellet lichen (*Rhizoplaca idahoensis*)	BLM & Forest Service Sensitive	X	X
Least snapdragon (*Sairocarpus kingii*)	BLM Sensitive	X	
Silver chicken sage (*Sphaeromeria argentea*)	BLM Sensitive	X	
Lost River silene (*Silene scaposa* var. *lobata*)	BLM Sensitive	X	
Basin goldenrod (*Solidago spectabilis*)	BLM Sensitive	X	
Few-flowered goldenrod (*Solidago velutina* = *S. sparsifolia*)	BLM Sensitive	X	
White-stemmed globe-mallow (*Sphaeralcea munroana*)	BLM Sensitive	X	
Tall dropseed (*Sporobolus compositus* var. *compositus* = *Sporobolus asper*)	BLM Sensitive	X	
Malheur princesplume (*Stanleya confertiflora*=*S. annua, S. rara, S. viridiflora*)	BLM Sensitive	X	
Smooth buckwheat (*Stenogonum salsuginosum* = *Eriogonum salsuginosum*)	BLM Sensitive	X	
Rush aster (*Symphyotrichum boreale* = *Aster junciformis*)	BLM Sensitive	X	
American wood sage (*Teucrium canadense* var. *occidentale*)	BLM Sensitive	X	
Woven-spore lichen (*Texosporium sancti-jacobi* = *Cyphellium sancti-jacobi*)	BLM Sensitive	X	
Wavy-leaf thelypody (*Thelypodium repandum*)	BLM Sensitive	X	
Meadow pennycress (*Thlaspi parviflorum*)	BLM Sensitive	X	
Showy townsendia (*Townsendia florifera*)	BLM Sensitive	X	
Scapose townsendia (*Townsendia scapigera*)	BLM Sensitive	X	
Douglas's clover (*Trifolium douglasii*)	BLM Sensitive	X	
Owyhee clover (*Trifolium owyheense*)	BLM Sensitive	X	
Plumed clover (*Trifolium plumosum* var. *amplifolium*)	BLM & Forest Service Sensitive	X	X
Idaho range lichen (*Xanthoparmelia idahoensis*)	BLM Sensitive	X	
Sitka columbine (*Aquilegia formosa*)	Forest Service Sensitive		X
Lost River milvetch (*Astragalus amnis-amissi*)	Forest Service Sensitive		X
White Cloud milkvetch (*Astragalus vexilliflexus* var. *nubilus*)	Forest Service Sensitive		X
Beautiful bryum (*Bryum calobryoides*)	Forest Service Sensitive		X
Centennial rabbitbrush (*Chrysothamnus parryi* ssp. *montanus*)	Forest Service Sensitive		X

Table 3-18
Special Status Species within the Planning Area

Common Name (*Scientific Name*)	Status*	Federal Land	
		BLM	Forest Service
Davis' wavewing (*Cymopterus davisii*)	Forest Service Sensitive		X
Douglas' biscuitroot (*Cymopterus douglasii*)	Forest Service Sensitive		X
Serpentine draba (*Draba oreibata* var. *serpentine*)	Forest Service Sensitive		X
Payson bladderpod (*Lesquerella paysonii*)	Forest Service Sensitive		X
Idaho pennycress, Stanley thlaspi (*Noccaea idahoensis* var. *aileeniae*)	Forest Service Sensitive		X
Cache beardtongue (*Penstemon compactus*)	Forest Service Sensitive		X
Marsh's bluegrass (*Poa abbreviate* ssp. *marshii*)	Forest Service Sensitive		X
Tobias' saxifrage (*Saxifraga bryophora* var. *tobiasiae*)	Forest Service Sensitive		X
Tolmie's saxifrage (*Saxifraga tomiei* var. *ledifolia*)	Forest Service Sensitive		X

3.6 Wild Horse and Burro Management

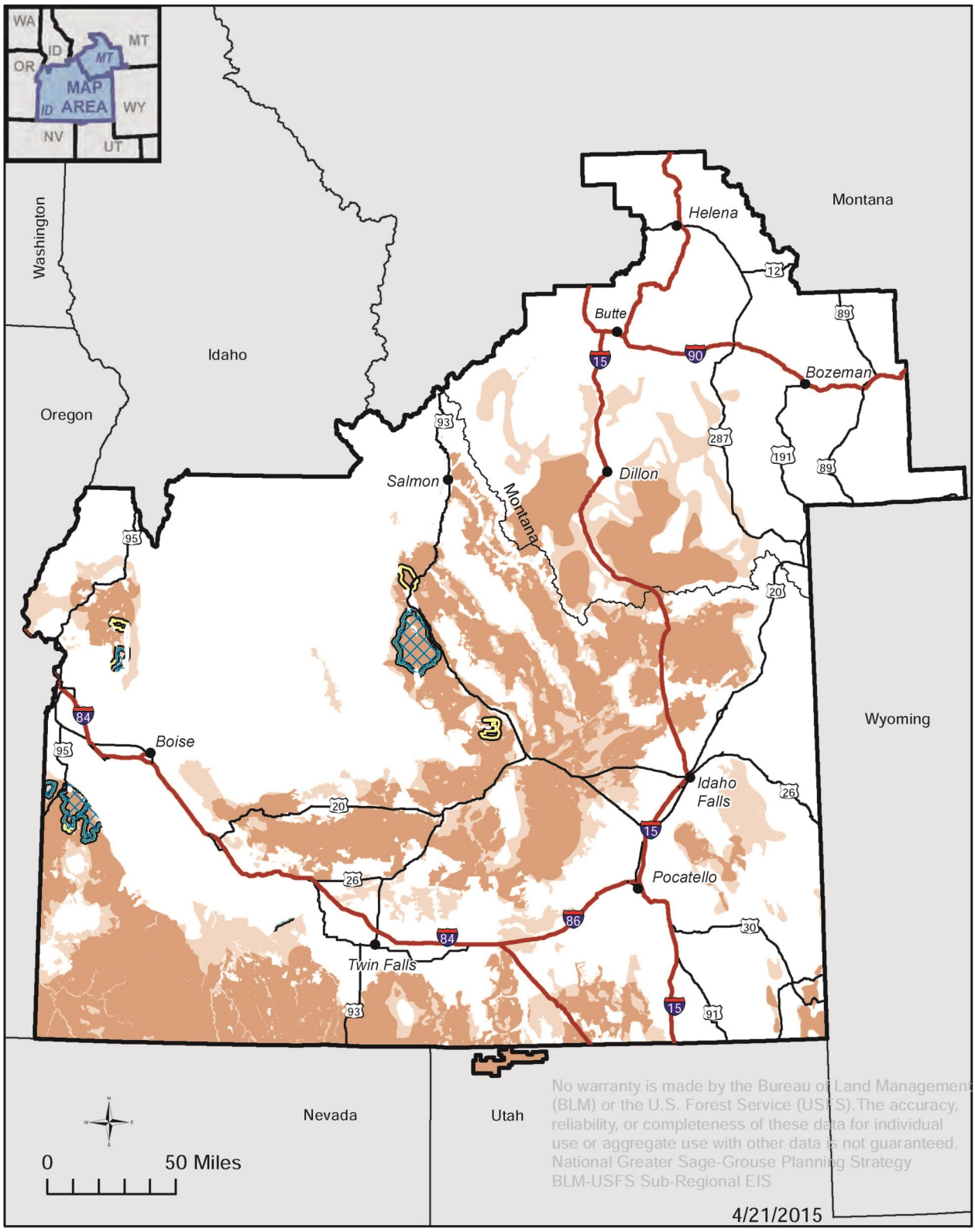
The Wild Free-Roaming Horses and Burros Act of 1971, as amended by FLPMA and the Public Rangeland Improvement Act of 1978, direct the protection and management of wild horses and burros on BLM-administered and National Forest System lands. Both the BLM and Forest Service have responsibility for managing Wild and Free Roaming Horses and Burros. Under the Act, the BLM identified herd areas as places used as habitat by a herd of wild horses at the time the Act was passed. To carry out its duties under the 1971 law, the BLM periodically evaluates each herd area to determine if it has adequate food, water, cover, and space to sustain healthy and diverse wild horse and burro populations over the long-term. The areas that meet these criteria are then designated as HMAs, where horses or burros can be viably managed as a component of the BLM-administered lands. The BLM designates an appropriate management level (AML) and specifies an allowable range in horse numbers for each HMA based upon available forage and other resources necessary to sustain the horse or burro populations, as well as resource objectives and other designated uses of the BLM-administered lands.

Wild horse and burro management areas on National Forest System lands are called territories. However, no active territories exist within the planning area. There are two inactive territories in Idaho on the Challis National Forest which no longer have any wild horses.

3.6.1 Conditions on BLM-Administered Lands

Within the planning area, the BLM manages six HMAs, all in the state of Idaho: four in the Boise District, one in the Twin Falls District, and one in the Idaho Falls District. Additionally, there are nine herd areas within the planning area, five of which are in southwestern Montana, and four of which are in Idaho (see **Figure 3-2**). The HMAs encompass approximately 361,900 acres of BLM-administered lands, and support between 424 and 617 head of horses when populations are within AML. Approximately 551 horses

Figure 3-2
Wild Horse and Burro Herd Management Areas and Herd Areas



Alternative B Habitat
- Preliminary Priority Management Atea
- Preliminary General Management Area

- Wild Horse and Burro Herd Management Areas
- Wild Horse and Burro Herd Areas

- Major Cities
- Idaho and SW Montana Sub-regional boundary
- Interstate Highway
- US Highway

are on BLM-administered lands within these HMAs based upon current population estimates (**Table 3-19**). A wild horse is assumed to consume 12 AUMs per year; as such, the AML can be multiplied by 12 to determine the number of AUMs used by wild horses.

Table 3-19
HMAs within the Planning Area

HMA	AML Range	Population Estimate[1]	Acres of BLM-Administered Lands within Planning Area
Black Mountain	30-60	55	38,900
Challis	185-253	185	154,300
Fourmile	60[2]	65	13,000
Hardtrigger	66-130	141	57,200
Sands Basin	33-64	65	9,500
Saylor Creek	50[3]	40	89,000

Source: Manier et al. 2013
[1]Population estimates current as of November 2012
[2] An AML target, rather than a range, was specified for this herd by the existing LUP
[3]AML not established, but is currently managed for 50 horses in accordance with the 1987 Jarbidge Resource Management Plan.

3.6.2 Conditions on National Forest System Lands

The Forest Service does not manage any wild horses or burros within the planning area.

3.6.3 Regional Context

Table 3-20, displays acres of wild horse and burro territories in GRSG habitat (Manier et al. 2013). In the table, data are presented by surface management agency and their occurrence within occupied habitat in the planning area.

Table 3-20
Acres of Wild Horse and Burro Areas within GRSG Habitat in the Planning Area

Surface Management Agency	Acres within PGH[1]			Acres within PPH[1]		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	41,300	2,007,200	601,400	228,500	1,792,900	1,177,200
Forest Service	0	0	0	0	0	0
Tribal and Other Federal	0	50,700	7,200	0	69,800	0
Private	2,300	602,400	29,100	4,400	271,200	51,900
State	3,500	74,300	4,800	14,200	83,200	15,000
Other	0	0	0	0	0	0

Source: Manier et al. 2013
[1]Includes number of acres where BLM and Forest Service Wild Horse and Burro areas overlap GRSG habitat.
[2]BER combined acres for MZs II and VII

3.7 Wildland Fire Management

The Federal Wildland Fire Management Policy was developed by the Secretaries of the Departments of the Interior and Agriculture in 1995 in response to dramatic increases in the frequency, size, and catastrophic nature of wildland fires in the United States. The 2001 review and update of the 1995 Federal Wildland Fire Management Policy consists of findings, guiding principles, policy statements, and implementation actions, and replaces the 1995 Federal Wildland Fire Management Policy. Known as the 2001 Federal Wildland Fire Management Policy (DOI et al. 2001), this update recommends that federal fire management activities and programs include the following:

- Provide for firefighter and public safety
- Protect and enhance land management objectives and human welfare
- Integrate programs and disciplines
- Require interagency collaboration
- Emphasize the natural ecological role of fire
- Contribute to ecosystem sustainability

The Federal Wildland Fire Management Policy provides nine guiding principles fundamental to the success of the federal wildland fire management program and the implementation of review recommendations. These umbrella principles compel each agency to review its policies to ensure compatibility.

The wildland fire management program encompasses the full range of hazardous fuels, management of wildfire, and the rehabilitation of lands affected by wildfire.

The wildfire suppression program utilizes a coordinated effort to respond to all unplanned ignitions (wildfire) with a preplanned, appropriate response. Each response is guided by LUP and fire management plan direction. As the severity and number of wildfires escalates, the further response and prioritization of fire suppression resources becomes a collaborative effort with all management levels within BLM and Forest Service working closely with interagency partners.

Trend analysis of fire starts and acres burned in the sage steppe ecosystem is very general and dependent predominately upon weather and fuels conditions. The relative fuel conditions of live fuel moistures and fine fuel loadings coupled with weather conditions such as relative humidity, wind speed, and days since last rainfall drive large fire growth in the grass fuel type.

Fire occurrence is weighed towards human causes, especially around urban centers and along major highway corridors. However, lightning is the major contributor to multiple large fire days and high numbers of acres burned. Lightning storms generally track from southwestern towards eastern Idaho, leaving successive lightning starts across all three southern districts, often times in remote or difficult to reach areas. These lightning events are commonly

associated with strong winds, which contribute to rapid large fire growth. Summer storms commonly lack significant rainfall. It should be reasonably expected that the majority of large fire days correspond to high percentile Burning Index days. Burning Index is a number related to the contribution of fire behavior to the effort of containing a fire. The Burning Index rates fire danger related to potential flame length over a fire danger rating area.

Since 2006, emphasis upon the protection of GRSG habitat during suppression actions has taken center stage in planning and operational discussions. High numbers of PPH and PGH acres were burned in 2007 and 2012. The majority of these acres were burned during corresponding high Burning Index days or periods. Fire season generally extends from early June thru October, and large fires can be expected during that time.

Fire Regime Condition Class

Natural Fire Regime: A natural fire regime is a general classification of the role fire would play across a landscape without modern human mechanical intervention (Agee 1993; Brown 1995). The five natural fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity of the fire on the dominant overstory vegetation (amount of vegetation replacement). These five regimes include:

I – 0 to 35 year frequency and low (surface fires most common) to mixed (less than 75 percent of the dominant overstory vegetation replaced) severity

II – 0 to 35 year frequency and high severity (greater than 75 percent of the dominant overstory vegetation replaced)

III – 35 to 100+ year frequency and mixed severity (less than 75 percent of the dominant overstory vegetation replaced)

IV – 35 to 100+ year frequency and high severity (greater than 75 percent of the dominant overstory vegetation replaced)

V – 200+ year frequency and high severity (greater than 75 percent of the dominant overstory vegetation replaced)

Fire regime condition class (FRCC) is a classification of the amount of change in fire frequency and severity from the natural fire regime (Hann and Bunnell 2001). The three classes are based on low (FRCC 1), moderate (FRCC 2), and high (FRCC 3) change from the natural fire regime (Hardy et al. 2001; Schmidt et al. 2002). The change in natural fire regime results from changes to one or more of the following fire regime attributes: vegetation characteristics (e.g., species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated disturbances (e.g., insect and disease mortality, grazing, and drought).

Characteristic vegetation and fuel conditions are considered to be those that occurred within the natural fire regime. Uncharacteristic conditions are considered to be those that did not occur within the natural fire regime. Examples of uncharacteristic conditions include

invasive species (e.g., weeds, insects, and diseases) or excessive vegetation removal. The amount of change is based on comparison of the fire regime attributes as identified above to the natural fire regime. The amount of change is then classified to determine the FRCC.

3.7.1 Conditions within the Planning Area

The Hazardous Fuels Reduction Program (HFR) involves a variety of treatments to accomplish the following:

- Modify vegetation to provide for firefighter safety
- Reduce the potential of wildfire spread
- Reduce the detrimental effects of wildfire on a landscape
- Restore ecosystem resiliency
- Allow the natural role of fire on the landscape
- Protect private holdings and infrastructure
- Decrease the costs of rehabilitation efforts after a wildfire has occurred

Depending on the specifics of the overall project, multiple treatment types may be involved over several years to obtain the specifications for the project. One example of this would be: For an annual grass dominated area, prescribed fire will be used to remove existing layers of the annual grass and reduce the seed source. Chemical applications would be utilized to further reduce the seed source and the resulting new annual grass plants. Mechanical seedings of perennial (native or nonnative, grass/shrub/forb) mixtures would occur, pending the most successful time of year for applications.

Examples of treatment types include:

- **Prescribed Fire (Treatment)** – An HFR Treatment Category for any fire ignited by management actions to meet specific objectives and to achieve Fire Management objectives.
- **Mechanical (Treatment)** – An HFR Treatment Category that describes work that manually or mechanically removes or modifies fuel load structures to achieve Fire Management objectives.
- **Other (Treatment)** – An HFR Treatment Category that describes work involving the use of chemicals and biological methods to achieve Fire Management objectives.

In Idaho, the HFR Program has been in place since the start of the 2000 National Fire Plan identified the need and funding source to develop and maintain the program. Within the last 5 years, which would represent the most current treatments on the existing landscape, the following acreage and types of treatments are shown below. The prescribed fire acreages have decreased from historical levels due to multiple large scale wildfires accomplishing the

removal of undesirable vegetation in areas planned for future projects. Mechanical treatments have increased in, both, seeding and mechanical reductions of conifer encroachment throughout PPH and PGH areas. The use of chemical or "Other" types of treatments has grown to increase the probability of success of seeding(s) of perennial (native or nonnative, grass/shrub/forb) mixtures by removing the dominance and competitiveness of the undesirable annual grass and weed species. Biological or "Other" treatments (insects, goat, and specific pathogens) have recently been of interest in very specific areas due to the "high risk" in areas that may have significant values should accidents occur during implementation of mechanical treatments (e.g., rocks and windows).

As described in Section 4.2.2, cheatgrass can dramatically alter sagebrush ecosystems and their fire frequencies. Increasing exotic annual grasses, primarily cheatgrass, are resulting in sagebrush loss and degradation (USFWS 2010a, p. 13,932). Cheatgrass can more easily invade and create its own feedback loop in areas that are dry with understory vegetation cover that is not substantial or that are experiencing surface disturbance, such as road construction. It can facilitate short fire return intervals by outcompeting native herbaceous vegetation with early germination, early moisture and nutrient uptake, prolific seed production, and early senescence[1] (Hulbert 1955; Mack and Pyke 1983; Pellant 1996).

Furthermore, by providing a dry, fine fuel source during peak fire season, cheatgrass increases the likelihood of fire, which increases the likelihood of further cheatgrass spread (Pellant 1990). While research and management is focused on developing means of controlling cheatgrass on a large scale, the only current management actions under the fire program to minimize the spread of fire in GRSG habitat are fuels treatments, fire prevention planning, and effective fire suppression geared toward protecting GRSG habitat. Reducing the spread of cheatgrass and the scale of wildfire through appropriate conservation actions could also result in more or improved habitat for GRSG. These actions would be those associated with other BLM and Forest Service post-fire programs, such as ES&R and BAER.

3.7.2 Trends

Table 3-21 presents fuel treatment types and acreages over the past five years.

Table 3-21
BLM Treatment Types and Acreages Over the Past Five Years

Treatment Type	2008	2009	2010	2011	2012
Prescribed fire	11,199 acres	8,647 acres	7,189 acres	6,398 acres	3,021 acres
Mechanical	46,073 acres	38,992 acres	33,975 acres	30,987 acres	30,725 acres
Other	59,003 acres	47,991 acres	36,500 acres	39,895 acres	71,666 acres

Source: BLM GIS 2015

[1]Deterioration due to age

Over the past few years, the focus of the HFR program was to treat acreages within the WUI. This was specific to protecting private in-holdings in the attempt to decrease the detrimental effects of wildfire to human structures and the associated infra-structure for the communities.

Emergency Stabilization and Rehabilitation (ESR)

Alteration to the historic fire regime has substantially reduced the sagebrush steppe communities of the Sub Unit and the larger Great Basin. The exclusion of wildfire within the upper elevations shrub steppe communities (primarily mountain big sagebrush) has converted GRSG habitat into juniper woodland.

The greatest loss of GRSG habitat however has been from cheatgrass proliferation and wildfire within the lower elevation sagebrush communities (primarily Wyoming big sagebrush). Historically, wildfire was not a common occurrence within the Wyoming big sagebrush sites. Current literature estimates the fire interval at approximately 100 years. When these sites did burn, the discontinuous fuels of the scattered native bunch grasses likely resulted in small, discontinuous fires. Conversely, cheatgrass is highly flammable due to its uniform fine fuels which dry out early in the growing season. Each recurring fire set the stage for further cheatgrass expansion, resulting in an ever increasing cheatgrass/fire cycle and loss of GRSG habitat. On many of these sites, fire-return intervals have been shortened to between 2 and 4 years (Whisenant 1990).

Lower elevation shrub steppe communities within the subunit (even those containing minimal cheatgrass understories) will cross a threshold into fire maintained cheatgrass dominated communities unless they are successfully rehabilitated within the first couple years following wildfire. Such areas are also highly susceptible to noxious weed invasions. Therefore, successfully reestablishing perennial vegetation within this narrow time frame is essential for reducing the loss of low elevation GRSG habitat.

Fire rehabilitation consists of mitigating damaging effects from wildfire and in restoring vegetative structure and function to recently burned fire damaged areas which cannot recover on their own. These efforts consist of seeding perennial grasses, shrubs, and forbs. The seeding technique is based largely on seed size. Most grasses (which have relatively large seeds) are drill seeded to effectively cover the seed, whereas sagebrush and many forbs (which consist of small seeds) are most successful broadcast seeded.

Drought and invasive annual grass competition are the two biggest challenges to reestablishing perennial vegetation following wildfire on the low elevation sites. Seedings are most successful during years of adequate precipitation and on sites where cheatgrass competition is minimal such as recently burned sagebrush stands in good condition, or sagebrush stands with cheatgrass in the understory which burned hot enough consume cheatgrass seed lying on the soil surface underneath the sagebrush canopy. Accordingly, the higher the density of sagebrush cover prior to the burn, the greater the likelihood for seedings success. Because sagebrush fires burn hotter and slower than grassland fires, the cheatgrass seed lying on the soil surface underneath the sagebrush canopy is usually consumed, whereas the seed laying outside of the sagebrush canopy or other shrub free areas

(such as previously burned cheatgrass-dominated sites) is not consumed and remains viable. Accordingly, the areas underneath the burned sagebrush canopy create a cheatgrass free "clean" seedbed which allows seeded species to establish relatively free of cheatgrass competition. Although the areas outside of the canopies will remain dominated by cheatgrass, the established plants underneath the former sagebrush canopy will usually outcompete the adjacent cheatgrass over time. However, strong wind-driven fires often prevent consumption of cheatgrass seed, thereby require cheatgrass control. Seeding previously burned cheatgrass-dominated sites devoid of a brush overstory, is not usually successful because these rapid cheatgrass driven fires do not provide enough heat to consume cheatgrass seed lying on the soil surface.

Herbicides have proven to be the most effective and noninvasive method for controlling annual grasses prior to seeding. Before 1991, the use of herbicides to control invasive annual grasses was prohibited on public land. Therefore, various tilling methods such as plowing and disking were the only available options. Unfortunately, these treatments damaged remaining native vegetation and biologic soil crusts, increased site susceptibility to wind erosion and often resulted in seed being drilled too deeply, thereby opening the site for total cheatgrass domination when seedings were unsuccessful. Prescribed fire was used in attempts to kill cheatgrass seed while still on the plant. Although such fires kill some seed still on the plant, they do not burn hot enough to kill cheatgrass seed on the soil surface.

Intensive livestock grazing is often suggested for controlling cheatgrass competition. Although targeted grazing may have some applications for fuels management, it is not effective in reducing cheatgrass competition (Hempy-Mayer and Pyke 2008). During the short time when cheatgrass is highly palatable in the spring, a sufficient number of livestock cannot be concentrated on a small enough area to reduce the cheatgrass seed significantly or reduce cheatgrass seed lying on the soil surface. In addition, this type of grazing can be detrimental to remaining perennial grasses, opening the site up for further cheatgrass expansion in the future.

The BLM and Forest Service are authorized to use various approved contact and pre-emergent herbicides for controlling invasive annual grasses. Both types of herbicides have their advantages and shortcomings.

Contact herbicides such as Glyphosate have been widely and successfully used within the Boise, Twin Falls, and Idaho Falls Districts in Idaho. These herbicides must be applied during the short period that cheatgrass is actively growing, and before seed development occurs. When numerous cheatgrass crops occur on a given year, repeated applications are required. Additionally, application rates must be tuned to minimize damage to existing perennial plants while effectively controlling the invasive annuals. Glyphosate binds quickly to soil particles and is inactivated. Unbound glyphosate is degraded by soil bacteria.

Pre-emergent herbicides such as imazapic and sulfometuron methyl are highly effective in controlling invasive annual grasses while having minimal impacts on most established perennial species. They are also classified as nontoxic to fish and wildlife. These herbicides do not require the specific application timing needed with glyphosate, and their residual

action in the soil controls annual grasses whenever they happen to germinate. The residual action lasts from 1 to 3 years, depending on soil moisture, pH, and temperature. In addition to controlling invasive annual grasses prior to seeding, these herbicides could be used to help maintain and protect existing native plant communities which have been invaded with annual grasses. Such treatments would allow the natives to gain a competitive advantage over the exotic annuals, and the associated reduction in annual grass fuels would reduce the site's risk to wildfire. A limitation of these herbicides is their potential to damage crops at extremely low concentrations. Accordingly, these herbicides must be used in accordance to the label and/or other appropriate restrictions in such situations.

Recent research on naturally occurring fungi and bacteria for controlling cheatgrass is encouraging and may prove to be an effective future control method. Examples include Dooley and Beckstead's (2010) *Characterizing the interaction between a fungal seed pathogen and a deleterious rhizobacterium for biological control of cheatgrass*; Stewart's (2009) *The grass seed pathogen Pyrenophora semeniperda as a biological agent for annual Brome grasses*; and Meyer et al.'s (2008). *Cheatgrass (Bromus tectorum) biocontrol using indigenous fungal pathogens.*

Selecting plant materials which can establish and persist in these arid cheatgrass competitive environments is essential for restoring GRSG habitat lost through wildfire. Prior to the mid-1980s, fire rehabilitation funds could not be used for sagebrush seeding. Since that time, sagebrush is included in most fire rehabilitation seedings on its respective ecological sites. Occasionally, during busy fire years, sagebrush seed shortages restrict its use to priority burned GRSG habitat.

Native grasses and forbs are preferred over introduced species when they can meet the above requirements. Historically, few adapted native grass seed was available which could persist in these desert environments, thereby requiring the use of durable introduced species such as crested wheatgrass. Over time, selections of native blue bunch wheatgrass, basin wildrye, Snake River wheatgrass, squirreltail, Indian ricegrass, and Sandberg bluegrass have become increasingly available and are now used extensively in fire rehabilitation seedings for areas that receive at least 10 inches of annual precipitation in recently burned sagebrush communities. For the past ten years, the BLM has been funding the interagency Great Basin Native Plant Selection and Increase Project for increasing native seed availability, especially native forbs important to GRSG, and to improve the success of land managers in establishing native plants (Forest Service 2013b).

However, some important native grasses (such as Thurber's needlegrass) are still not widely available and or effective in competing with cheatgrass in the harshest environments. In these areas, durable introduced species as Siberian wheatgrass and Russian wild rye are still the only viable option. Even those species are often unsuccessful on those sites. Additionally, restoring native plant communities in repeatedly burned annual dominated grasslands has proven largely unsuccessful. Considerable speculation and research has attempted to understand why. A lack of mycorrhiza, soil nutrients, and other changes to the soil environment from years of invasive annual grass domination is believed to be at least partially responsible.

The theory of "assisted succession" is suggested as a method for ultimately restoring these areas by first vegetating with resilient introduced species to break the fire cycle, removing annual grass dominance and deplete annuals' seed source, and restore soil characteristics which may in time make the site more hospitable to restoring the native community, followed by eventual seeding with natives. Accordingly, this is a long term costly process which cannot begin to be implemented until the fire cycle has been broken. Until the majority of annual grass dominated landscapes can be rehabilitated to less fire prone species in the long-term, these short fire cycles will result in a continual loss of these investments, and in the remaining native sagebrush steppe communities.

Seeded areas require rest from livestock use to become fully established, followed by livestock management which will maintain plant health and vigor. BLM policy traditionally prescribes a minimum of two growing seasons rest from livestock grazing, and until plant establishment objectives are met. Depending on moisture and other site conditions, longer rest is often needed before grazing can be resumed. However, a true native restoration could require years of rest from grazing to become successfully established (depending on plant materials used and site characteristics). Such large-scale treatments could have significant repercussions to grazing permittees, and may also necessitate more restrictive management to maintain the native seeded species over the long term.

The ability to protect these areas from recurring wildfire is crucial to maintaining the reestablished sagebrush component. Successful fire rehabilitation seeding can contribute to this goal by changing the fuels from highly flammable annual grasses with high fuel continuity, into less-fire-prone perennial bunch grasses, which stay greener longer and which provide much less fuel continuity (Pellant 1992). Accordingly, when fire does return to these rehabilitated areas, the fires are often spotty and leave substantial unburned sagebrush islands and a seed source for naturally reestablishing sagebrush. Additionally, the burned perennial grasses quickly re-sprout and compete effectively with annual weeds.

Also warranted is a system of effectively managed fuel breaks consisting of durable, fire-resistant vegetation, such as forage kochia, placed primarily along roads or other appropriate, strategic features. In general, vegetative fuel breaks have characteristics that disrupt fuel continuity, harbor lower fuel loads, and have lower volatile compounds and increased moisture content (Pellant 1992). Fuel breaks help provide defensible anchor points for facilitating fire suppression activities and can allow fires to be compartmentalized, ultimately reducing potential fire size.

Burned Area Emergency Response

The Forest Service's Burned Area Emergency Response (BAER) program is designed to address emergency situations through its key goals of protecting life, property, and critical natural and cultural resources. The objective of the program is to determine the need for and to prescribe and implement emergency treatments on federal lands to minimize threats to life or property resulting from the effects of a fire or to stabilize and prevent unacceptable degradation to natural and cultural resources. Loss of vegetation exposes soil to erosion; runoff may increase and cause flooding, sediments may move downstream and damage houses or fill reservoirs, and put endangered species and community water supplies at risk.

BAER teams are staffed by specially trained professionals, and BAER assessments usually begin before a wildfire has been fully contained. There are a variety of emergency stabilization techniques that the BAER team might recommend. Reseeding of ground cover with quick-growing or native species, mulching with straw or chipped wood, construction of straw, rock or log dams in small tributaries, and placement of logs to catch sediment on hill slopes are the primary stabilization techniques used. The team also assesses the need to modify road and trail drainage mechanisms by installing debris traps, modifying or removing culverts to allow drainage to flow freely, adding additional drainage dips and constructing emergency spillways to keep roads and bridges from washing out during floods.

3.7.3 Regional Context

Table 3-22 and **Table 3-23** display wildland fire data for GRSG habitat in the planning area (Manier et al. 2013). **Table 3-23** also uses data from the Forest Service's fire simulator, FSim. FSim generates burn probabilities by simulating fires using historical weather data and current land cover data. **Figure 3-3** and **Figure 3-4** illustrate fire issues in the sub-region.

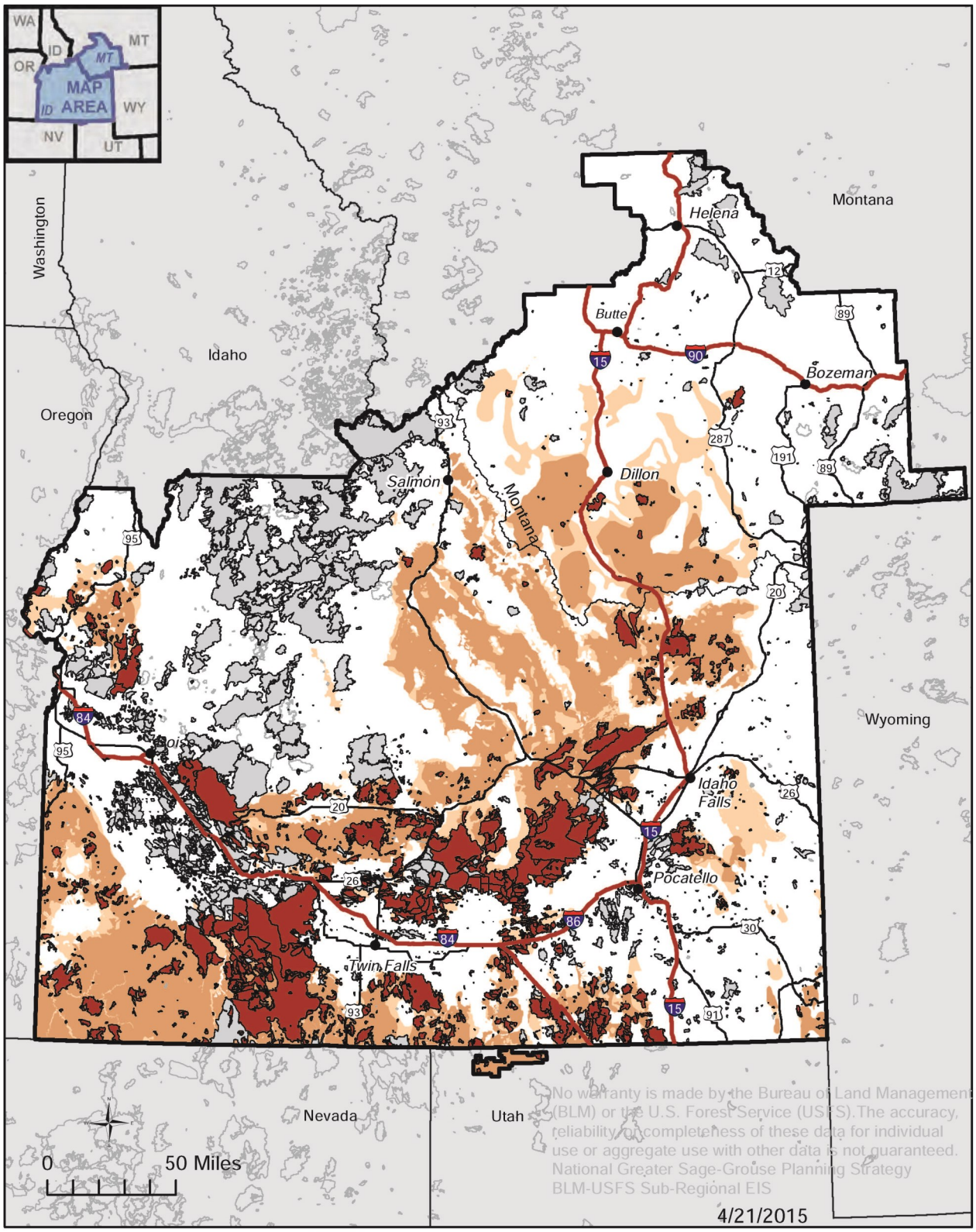
3.8 Livestock Grazing

The foremost authority for providing grazing on BLM-administered lands is the Taylor Grazing Act, which was passed on June 28, 1934. It protects public rangelands and their resources from degradation, provides for orderly use to improve and develop public rangelands, and stabilizes the livestock industry. Following various homestead acts, the Taylor Grazing Act established a system for allotting grazing privileges. The FLPMA and the Public Rangeland Improvement Act (1978) also provide authority for managing grazing on public rangelands managed by the BLM. BLM grazing administration, excluding Alaska, is governed by 43 CFR, Part 4100.

The primary laws that govern grazing on National Forest System lands are the Organic Administration Act of 1897, the Granger-Thye Act of 1950, Multiple Sustained Yield Act of 1960, FLPMA, the Forest Rangeland Renewable Resources and Planning Act of 1974, the National Forest Management Act of 1976, and the Public Rangelands Improvement Act of 1978. The Forest Service manages livestock grazing under direction in 36 CFR, Part 222, Forest Service Manual 2200, and Forest Service Handbook 2209.13. In addition, LUPs identify the suitability of land on National Forest System units to produce forage for grazing animals and to establish programmatic direction for grazing. Specific directions are goals, objectives, desired conditions, standards, guidelines, and monitoring requirements. Although an area may be deemed suitable for use by livestock in a LUP, a project-level analysis evaluating the site-specific impacts of the grazing activity, in conformance with NEPA, is required in order to authorize livestock grazing on specific allotments.

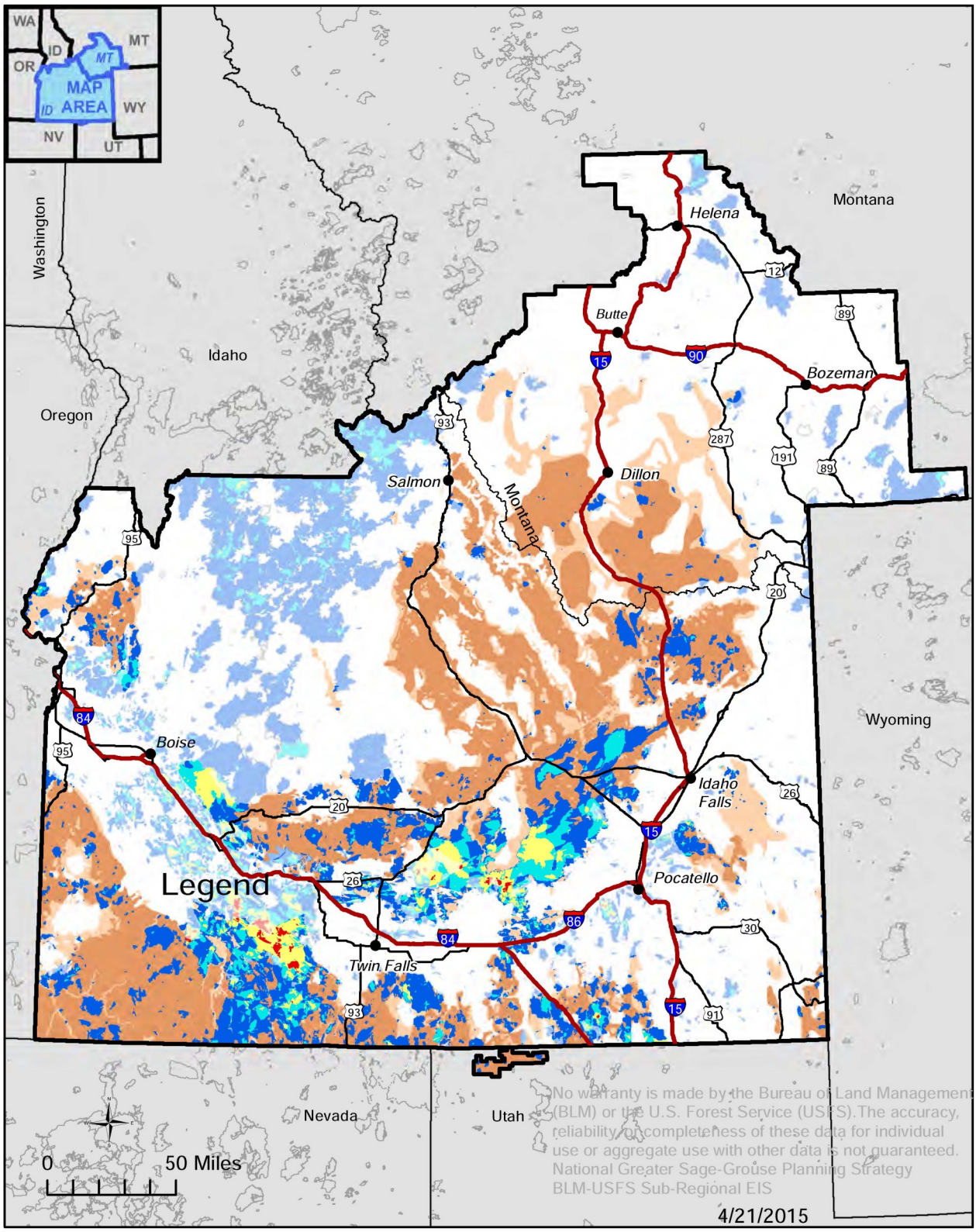
The BLM grazing administration regulations were revised in 1995 to include Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration (43 CFR, Part 4180). On August 12, 1997, Part 4180.2 of 43 CFR put into effect both the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management and the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for

Figure 3-3
Fire History in the Planning Area



Fire History - Within Habitat 1980-2013
Fire History - Outside Habitat 1980-2013
National Historic Perimeters 2000-2013
Preliminary Priority Management Area
Preliminary General Managment Area
Analysis Boundary

Figure 3-4
Fire Frequency in the Planning Area



Fire Frequency 1980-2013

within Habitat	Outside Habitat
5 - 9	5 - 9
3 - 4	3 - 4
2	2
1	1

National HIstoric Perimeters 2000-2012

Alternative B Habitat

Habitat Management Area

PHMA

GHMA

Idaho and SW Montana Sub-regional boundary

Table 3-22
Acres of Wildland Fire within GRSG Habitat

Surface Management Agency	Acres[1] within PGH			Acres[1] within PPH		
	Planning Area	MZ II	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	400,000	39,300	965,900	836,500	30,100	1,809,400
Forest Service	36,700	8,700	161,500	2,800	12,600	33,900
Tribal and Other Federal	80,200	127,000	82,400	58,100	17,100	58,100
Private	47,200	73,300	190,300	72,400	13,800	417,400
State	28,300	9,800	30,900	38,600	11,100	53,100
Other	100	0	100	600	0	700

Source: Manier et al. 2013
[1]Acres calculated from wildland fires occurring between 2000 and 2012; represents total acres burned.
[2]BER combined acres for MZs II and VII

Table 3-23
Acres with High Probability for Wildland Fire within GRSG Habitat[1]

Surface Management Agency	Acres[2] within PGH			Acres[1] within PPH		
	Planning Area	MZ II	MZ IV	Planning Area	MZ II/VII[3]	MZ IV
BLM	1,801,400	402,600	4,438,100	6,035,000	862,000	11,904,200
Forest Service	428,900	182,700	621,400	601,200	31,100	1,163,200
Tribal and Other Federal	270,100	435,900	301,900	461,500	180,100	487,200
Private	890,300	593,300	2,268,400	1,338,600	871,200	4,068,100
State	363,900	62,700	649,700	600,300	151,600	738,700
Other	26,300	1,300	26,300	61,900	8,400	62,000

Source: Manier et al. 2013
[1] High burn probability is based on a national burn probability dataset generated for the 2012 Fire Program Analysis System and provided by the National Interagency Fire Center. Areas were classified in several categories: non-burnable; low probability, and high probability.
[2] Derived from Forest Service FSim Burn data
[3]BER combined acres for MZs II and VII

Public Lands Administered by the BLM for Montana and the Dakotas. Both of these guidelines apply to grazed BLM-administered lands in the planning area.

Standards are integrated into the BLM's land management by being incorporated into grazing permits and LUPs, as a basis for environmental assessments, through NEPA analysis, and as a basis for monitoring. Guidelines are incorporated into livestock grazing authorizations and management practices. The standards and guidelines provide a clear statement of agency policy and direction for those who use BLM-administered lands for livestock grazing and for those who are responsible for their management and accountable for their conditions. In accordance with 43 CFR, Part 4180, if the BLM determines that grazing management practices or levels of grazing are failing to achieve the standards and to

conform to the guidelines, the BLM will take appropriate action before the next grazing season to adhere to the standards and conform to the guidelines.

3.8.1 Conditions within the Planning Area

Grazing permits and leases are the documents that authorize livestock grazing on BLM-administered lands (43 CFR 4100.0-5). The kind and number of livestock, the period of use (seasonal), the allotment to be used, and the amount of use in animal unit months (AUMs) are mandatory terms and conditions of every grazing permit or lease (43 CFR 4130.3). An AUM is the amount of forage necessary for the sustenance of one cow or its equivalent for one month and an allotment is an area of land designated and managed for grazing of livestock (43 CFR 4100.0-5). Livestock graze on approximately 12,129,800 acres of BLM-administered land within 2,654 allotments in the planning area.

Grazing on National Forest System lands is permitted through term grazing permits that authorize grazing on National Forest System lands. The term grazing permit authorizes the number, kind, and class of livestock as well as the period of use and grazing allotment on which livestock are permitted to graze. Permit holders may not assign or transfer grazing privileges in whole or part (36 CFR 222.1-4). There are 319 allotments on 9,646,900 acres on National Forest System land in the planning area.

Table 3-24 provides information on the allotments managed in the planning area.

Table 3-24
Idaho and Southwestern Montana Sub-region Planning Area—Allotments

District or Forest	Allotments	Acres in Planning Area	Active AUMs	Non Habitat	PGH	PPH
BLM						
BLM Boise District	522	3,709,900	410,800	1,325,500	568,300	1,816,100
BLM Idaho Falls District	873	3,420,500	396,300	551,500	366,600	2,502,400
BLM Twin Falls District	534	3,750,900	543,700	813,600	685,300	2,252,000
BLM Western Montana District	426	849,500	103,600	185,000	211,100	453,500
Total	**2,355**	**11,730,700**	**1,454,400**	**2,875,600**	**1,831,200**	**7,024,000**
Forest Service						
Beaverhead-Deerlodge	83	2,334,900	207,600	2,008,700	177,200	149,000
Boise	16	1,244,500	48,300	1,168,400	56,500	19,600
Caribou-Targhee	64	2,224,600	308,700	2,002,100	164,500	105,800
Curlew	2	47,800	27,900	1,800	6,800	39,200
Salmon-Challis	82	2,184,100	142,200	1,639,500	201,800	342,900
Sawtooth	72	1,611,000	172,100	1,135,300	202,800	273,000
Total	**319**	**9,646,900**	**906,800**	**7,955,800**	**809,600**	**929,500**

Sources: BLM GIS 2015; Forest Service 2013a, 2013c

Facilities for livestock management on BLM-administered and National Forest System lands in the planning area occur at varying densities based upon management needs, landownership patterns and other factors. These facilities include, but are not limited to fences, cattle guards, corrals, pipelines, water troughs, wells and reservoirs. Fences are used to delineate allotment boundaries, pastures within allotments, landownerships, and to exclude the impact of ungulate grazing from certain resources. Corrals are smaller fenced areas that are occasionally located on BLM-administered and National Forest System lands for the purposes of gathering, sorting and handling livestock. Watering facilities are used to improve livestock distribution in areas where naturally occurring surface water is not available, and to reduce livestock use of naturally occurring springs and streams. In addition, supplemental salt, mineral, and protein may be provided for livestock grazing on BLM-administered and National Forest System lands, to aid with distribution of authorized livestock.

Since 1999, an assessment of rangeland health standards and guidelines has been made on 2,219 BLM allotments comprising 9,978,899 acres within the planning area. Of the allotments which have been assessed, 1,403 allotments comprising 3,509,733 acres are meeting all applicable standards and guidelines. An additional 451 allotments comprising 4,581,851 acres are not achieving one or more of the applicable standards and guidelines due to livestock grazing management, but management actions have been implemented to correct the identified issues. On 61 allotments comprising 660,901 acres, standards are not being achieved due to livestock management, but management actions have not yet been taken to make progress towards meeting standards. On 293 allotments comprising 1,226,179 acres, one or more applicable standards was not met due to factors other than livestock management. Standards and guidelines assessments have not been completed on 528 allotments comprising 2,406,238 acres within the planning area. The Forest Service does not have an equivalent assessment to the BLM's rangeland health standards and guidelines, nor are similar assessment data available for National Forest System lands.

3.8.2 Regional Context

Table 3-25 through **Table 3-27** display grazing data for GRSG habitat in the planning area (Manier et al. 2013). In each table, data are presented by surface management agency and their occurrence within occupied habitat in the planning area. Note that the data in **Table 3-26** were assembled in 2008 from available records, and progress has been made towards meeting standards and guidelines since this time. In addition, this table reflects only those allotments not meeting Idaho Standards for Rangeland Health and Guidelines, Standard 8 (Threatened and Endangered Plants and Animals).

Table 3-25
Acres of Grazing Allotments within GRSG Habitat

Surface Management Agency	Acres within PGH			Acres within PPH		
	Planning Area	MZ II/VII[1]	MZ IV	Planning Area	MZ II/VII[1]	MZ IV
BLM	1,976,900	8,916,400	4,670,700	7,256,900	8,946,000	13,408,800
Forest Service	865,700	416,700	1,050,800	954,000	146,500	1,566,700

Table 3-25
Acres of Grazing Allotments within GRSG Habitat

Surface Management Agency	Acres within PGH			Acres within PPH		
	Planning Area	MZ II/VII[1]	MZ IV	Planning Area	MZ II/VII[1]	MZ IV
Tribal and other Federal	128,700	148,500	153,800	262,900	156,400	266,200
Private	465,400	4,524,200	1,201,300	1,101,900	3,957,300	3,044,600
State	214,000	771,600	257,900	629,000	1,032,700	693,600
Other	400	4,200	400	1,400	17,700	1,500

Source: Manier et al. 2013
[1]BER combined acres for MZs II and VII

Table 3-26
Acres of BLM Allotments Not Meeting Land Health Standards within GRSG Habitat

Surface Management Agency	Acres[1] within PGH			Acres[1] within PPH		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM (Idaho)	440,700	366,000	968,900	1,397,800	286,900	2,617,200

Source: Manier et al. 2013
[1]Only includes allotments not meeting Land Health Standards with grazing as the causal factor
[2]BER combined acres for MZs II and VII

Table 3-27
Miles of Fences within GRSG Habitat

Surface Management Agency	Miles within PGH[1]			Miles within PPH[1]		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	4,600	8,800	7,200	10,600	9,300	16,100
Forest Service	1,600	1,100	1,900	2,000	500	2,800

Source: Manier et al. 2013
[1]Derived from a dataset that identifies pasture and allotment borders on BLM-administered and National Forest System land as potential fences
[2]BER combined acres for MZs II and VII

3.9 Recreation

The diverse planning area offers multiple settings for a wide range of opportunities for recreation requiring no permits and no or minimal fees on BLM-administered and National Forest System land.

3.9.1 Conditions within the Planning Area

BLM Recreation

Objectives of the BLM recreation program are to: (1) provide broad spectrum of resource dependent recreation opportunities to meet the needs and demands of public land visitors,

(2) foster agency-wide efforts to improve service to the visiting public, (3) maintain high quality recreation facilities to meet public needs and enhance the image of the agency, and (4) improve public understanding and support of the BLM by effectively communicating the agency's multiple use management programs to the recreation visitor. The BLM accomplishes these objectives by focusing on visitor services, information and interpretation, resource enhancement and protection, facility maintenance and development, tourism programs, improved accessibility, and essential administrative functions. In meeting these objectives, the BLM also considers the presence of other federal, state and local, and private recreation opportunities; the need to assist states and local communities served by the agency to broaden and improve their economic base; and the need to continually monitor recreation trends, customer preferences, and technological advances to improve short, medium and long range strategic planning efforts.

BLM recreation planning and management is based on the establishment of Recreation Management Areas. Recreation management areas fall into two categories: 1) Special Recreation Management Areas (SRMA) and 2) Extensive Recreation Management Areas (ERMA). The BLM Recreation Planning Manual 8320 was released in 2011. Manual 8320 made policy changes to how BLM addresses planning for recreation management areas. Because the policy changes are recent, there are currently no LUPs that have recreation decisions based on the new policy. Consequently, the management decisions described here are done so in the context of the previous recreation policy.

Recreation management areas are administrative sub-units that serve as the basic land unit for recreation management. Each area is identified and managed as a unit based on similar or interdependent recreation values, homogenous or interrelated recreation use, land tenure and use patterns, or administrative efficiency.

SRMAs are established to direct recreation program priorities, including the allocation of funding and personnel, to those BLM-administered lands where a commitment has been made to provide specific recreation activity and experience opportunities on a sustainable basis. This includes a long term commitment to manage the physical, social, and administrative settings to sustain these activities and experience opportunities. Delineation is based on administrative/management criteria, including the existence of congressional designations, similar or interdependent recreation values, homogenous or interrelated recreation uses, land tenure and use patterns, transportation systems, administrative efficiency, intensity of use, high resource values, public concerns, or interagency considerations. These areas usually require a high level of recreation investment and/or management. They include recreation sites, but recreation sites alone do not constitute a SRMA. SRMAs established to reflect a congressional designation may be larger than the designation boundary when significant recreation issues or management concerns occur outside the designated area.

ERMAs are where recreation management is only one of several management objectives and where limited commitment of resources is required to provide extensive and unstructured type of recreation activities. They may contain recreation sites. The areas consist of the remainder of land areas not included in SRMAs within a field office.

The number of SRMAs and ERMAs are listed in **Table 3-28** and are mapped in **Figure 3-5**.

Table 3-28
Recreation Management Areas

SRMAs	48
ERMAs	18

Source: BLM GIS 2013

Within the recreation management are, there are approximately 400 recreation sites. These sites range in size and intensity of use from intensely used OHV areas (e.g., St Anthony Sand Dunes), boat ramps, and campgrounds to lightly used overlooks, trailheads and interpretive wayside exhibits. All developed recreation sites (including trailheads, picnic areas, etc.) are closed to target shooting per 43 CFR 8365.2-5(a).

BLM-administered lands received over 6 million visits in 2012. The BLM estimates that 20 to 25 percent of recreation visits were related to OHV use (e.g., motorcycles, all-terrain vehicles, and trucks). OHV use on BLM-administered lands has seasonal variations. In early spring when the forests often still have snow, BLM-administered lands will get recreational OHV use. As the temperatures rise and the lower elevation areas get hotter, OHV users will migrate to higher elevations where temperatures are cooler (often making more use of national forests). Use on BLM-administered lands in the fall will increase as temperatures cool and hunting season starts. There are BLM-administered lands that see little recreation use except during hunting season. OHV use is low during the cold winter months.

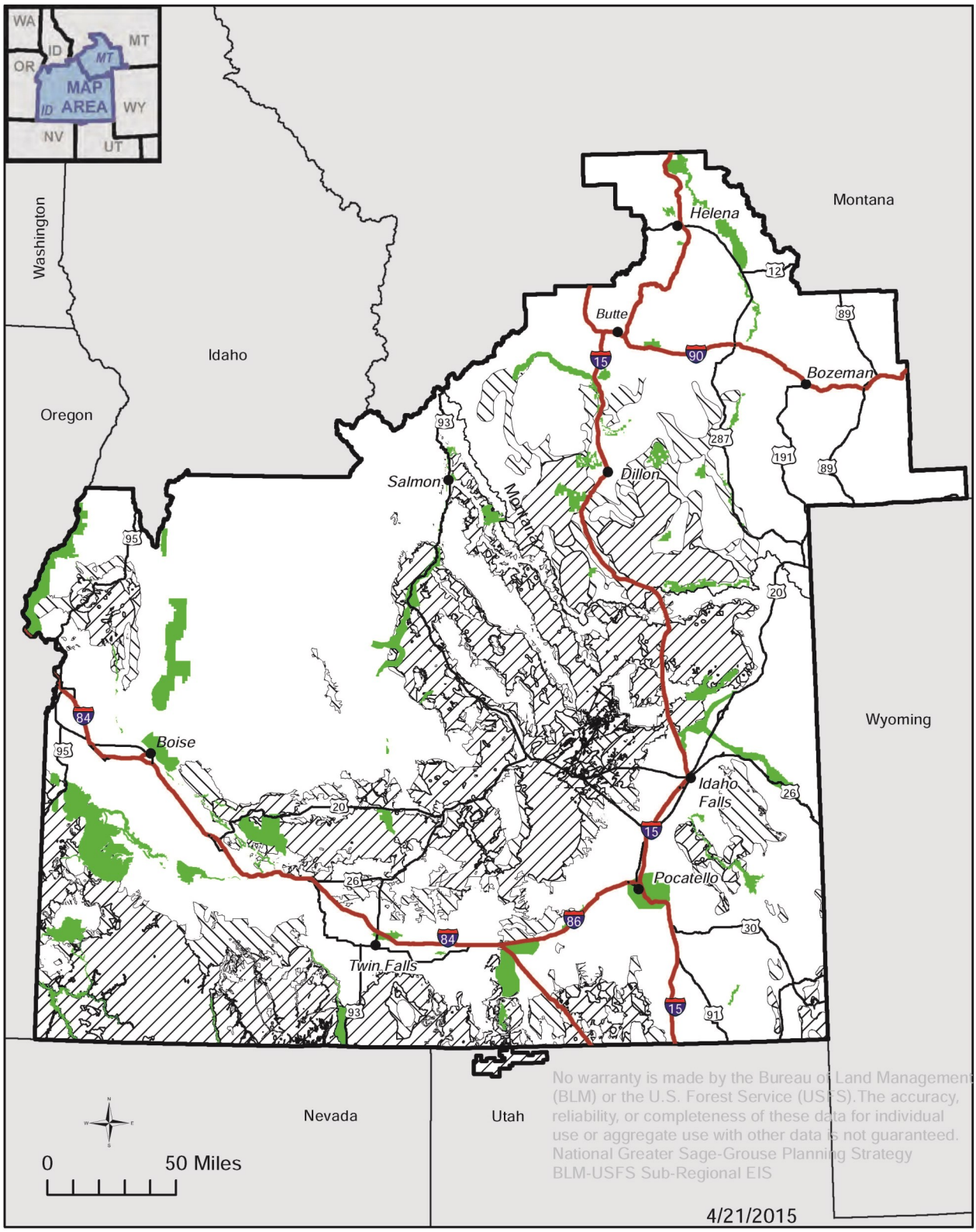
Depending on the OHV designation, use will be on routes in limited areas or possibly off routes where the area is designated as open (see **Section 3.10**, Travel Management, for OHV designations).

Other types of recreation activity that occur include bicycling, camping, hiking, horseback riding, skiing, snowmobiling, rafting/floating, power boating, fishing, swimming, photography, wildlife viewing, and hunting.

Forest Service Recreation

The Forest Service provides and manages a myriad of recreation opportunities for the visiting public. The National Forests and Grasslands provide the greatest diversity of outdoor recreation opportunities in the world, connecting visitors with nature in an unmatched variety of settings and activities. Visitors can hike, bike, ride horses, and drive OHVs; picnic, camp, hunt, fish, and navigate waterways; view wildlife and scenery; and explore historic places. Visitors glide through powder at world class alpine resorts and challenge themselves on primitive cross-country ski or snowmobile routes. With many partners, the recreation program strives to promote healthy lifestyles, support local economies, and connect citizens to their public lands. The Intermountain Region of the Forest Service manages over 34 million acres of forests and grasslands (5.8 million in Wilderness), with almost all of it open for public use and enjoyment. In 2012, over 11.5 million visitors came to enjoy the resources provides within the region.

Figure 3-5
Special Recreation Management Areas



Special Recreation Management Areas
Preliminary Priority Management Area
Preliminary General Managment Area
Analysis Boundary

BLM Special Recreation Permits

The BLM manages organized, commercial, and competitive recreation activities on BLM-administered lands and related waters with special recreation permits (SRPs). As a management tool, SRPs reduce user and resource conflicts, mitigate adverse impacts on resources, provide opportunities for monitoring activities, enhance visitor experience opportunities, and, with user fee requirements, allow for a fair return for these types of land uses. Issuance of an SRP is discretionary, with proposed activities subject to NEPA compliance and mitigation requirements specific to the proposed activity. The BLM may deny a permit request if assessment indicates unacceptable impacts; if an approved moratorium or restricted allocation system exists for the proposed activity, location, or time-frame; if there are serious health and safety concerns; or if past performance by an applicant has been deemed unacceptable and problematic. The BLM may require an applicant to possess appropriate insurance, bonding, certifications of training, and state permits/licenses to protect resource values, the served public, and the federal government.

In 2012, the BLM had 341 active SRPs. Of those SRPs, 241 were commercial river permits and 24 are commercial big game hunting permits. The remaining SRPs are for organized groups, competitive events, or other types of commercial recreation outfitters (e.g., bike tours).

Forest Service Special Use Permits

The Forest Service manages trail, river, and similar recreation opportunities and their access and supports facilities under the principles enumerated in FSM 2303. Special Use Permits are issued for specific types of recreation activities on Forest Service managed land and may be required when extra measures are needed to protect natural or cultural resources. The following are recreation special uses that involve facilities:

- Recreation special use permits involving privately owned facilities include resorts, marinas, ski areas, target ranges, organization camps, recreation residences, and other facilities. These permits are typically authorized under term permits and users pay a land use fee based on a percent of revenue or appraised value of the land.
- Recreation special uses involving government-owned facilities are concession campgrounds, resorts, organization camps, and some other facilities.
- Recreation special uses involving commercial public services are outfitting and guiding for a broad range of activities, groomed cross-country ski trails, and recreation events (including competitive races, eco-challenges, dog trails, adventure games, and endurance races). These uses are usually authorized under the Recreation Enhancement Act, which allows fees to be retained by the administrative unit that collected them.

Additionally, noncommercial group use permits are required for groups of 75 or more people. These users do not pay fees.

The Forest Service has 910 active recreation special use permits within the planning area (197 at Boise National Forest, 258 at Sawtooth National Forest, 114 at Salmon-Challis National Forest, 29 at Payette National Forest, and 312 at Caribou-Targhee National Forest).

No permits are required for private, non-commercial use of public lands for camping, fishing, hiking, hunting, horseback riding, or similar activities.

In 2012, the Intermountain Region of the Forest Service had 2335 recreation special use permits and 267 recreation special use permits for group activities and recreation events. Of the total recreation special use permits about 1400 were for recreation residences, 796 were for outfitter and guiding services, 53 were for organizational camps, 42 were for resort and marina permits, 28 were for concessionaires, and 16 were for ski areas.

3.9.2 Trends

Recreation use is expected to continue to grow throughout the planning area. The proximity of many recreation opportunities to the area surrounding Boise has dramatically increased recreational visitation within portions of the planning area and is expected to continue to do so.

Five key drivers are causing changes to recreation in the planning area:

1. Increased urbanization as a result of population growth and changing demographics
2. Changing public expectations and demand for outdoor recreation opportunities, especially for dispersed recreation
3. Increased energy development in portions of the planning area
4. Close proximity of BLM-administered lands to private property, and the growing use of BLM-administered lands as a community-based recreation asset
5. Technological advances, such as all-terrain or utility vehicles and mountain bikes, affordable global positioning system (GPS) units, as well as better outdoor equipment and clothing

These drivers will impact the activity opportunities that can be offered and the recreation experience and benefit opportunities that can be produced by land managers and partners.

Hunting

Although hunting licenses issued have dropped over the last decade, hunting remains a popular recreation activity within the region. While deer and elk are the most popular game in the planning area, of more relevance to this analysis are falconry and upland bird hunting.

Falconry

Falconry permit holders were surveyed after the fall 2010-spring 2011 hunting season (**Table 3-29**).

Table 3-29
Falconry Permits (Fall 2010-Spring 2011)

Species	# Hunters	# Days	# Harvest	Birds/Hunter	Days/Hunter	Birds/Day
Forest grouse	1	3	0	0.00	2.0	0.00
Chukar	8	95	4	0.49	12.3	0.04
California quail	5	46	4	0.76	8.8	0.09
Gray partridge (huns)	42	1,261	86	2.04	30.0	0.07
Pheasant	27	850	117	4.35	31.7	0.14
Rabbit	15	467	83	5.69	32.1	0.18
Sage-grouse	25	551	58	2.28	21.8	0.10
Sharp-tailed grouse	8	149	13	1.67	19.8	0.08
Mourning doves	6	173	8	1.16	26.6	0.04
Ducks	42	1,173	340	8.05	27.8	0.29
Geese	1	3	0	0.00	2.0	0.00
	180	**4,770**	**711**	**3.94**	**26.4**	**0.15**

159 hunters purchased Idaho falconry permits which would allow hunting in Fall 2010-Spring 2011.

Upland Birds

Idaho offers a multitude of upland game bird hunting opportunities on millions of acres of BLM-administered and National Forest System land.

Hunters can pursue three species of forest grouse – dusky, ruffed, and spruce – and two species of prairie grouse – Columbian sharp-tailed grouse and GRSG – all native to Idaho. Forest grouse hunting opportunities exist across the state, while Columbian sharp-tailed grouse and GRSG hunting is limited to certain areas only.

While GRSG are widely distributed in areas with large blocks of sagebrush, the hunting season is generally short (1 week during 2012) and opportunities are limited to areas of southern Idaho.

Idaho also offers chukar and gray partridge hunting, and has robust populations of California quail. Chukar and gray partridge (huns) thrive on large tracts of public ground and are available to everyone willing to make the effort to hunt them.

Chukar are typically found in rocky, arid areas covered with cheatgrass and sagebrush. Gray partridge (huns) are often found in close proximity to chukar and adjacent to cultivated land across the state. Expect to find the best populations of chukar and gray partridge in the Clearwater, Magic Valley, and Southwest regions.

California quail occur from south-central Idaho, west to the Oregon border and north to the Palouse Prairie. Good populations live along rivers and streams with brushy cover below 3,500 feet in elevation.

Historically, Idaho was a destination pheasant hunting location, but populations have declined because of changes in farming practices and the resultant loss of habitat.

Upland game population trends are monitored through harvest surveys, August roadside counts, August helicopter flush counts, mourning dove coo counts, hunter check stations, and wing barrel harvest data. Each region collects data using various methods based on regional bird densities and sampling constraints. Statewide, telephone surveys assess overall hunter activity and harvest of upland game species. From 1996-2000, telephone surveys estimated statewide rather than regional trends (except turkey) due to budget constraints. A separate telephone survey has been conducted since 2000 for GRSG and sharp-tailed grouse to improve sample size for these two species that have been considered for listing under the ESA.

In 2009, approximately 40,100 resident hunting license buyers hunted upland game and approximately 5,300 nonresident hunting license buyers hunted upland game. This represents 18 percent of all resident hunting license buyers and 16 percent of all nonresident hunting license buyers.

For GRSG, the season framework was altered in 1996 to provide three different types of seasons: liberal, conservative, and closed. In 2002, the season framework was modified. The Birch Creek Valley and the Big Desert areas, closed to GRSG hunting from 1995 to 2001, were reopened. Research suggested that the closed season did not have any measurable effect on GRSG populations, as measured by number of GRSG counted on lek routes. In 2009, there was a 7-day season with a 1-bird daily bag limit in Zone 2, and a 23-day season with a 2-bird daily bag limit in Zone 3.

Starting in 2000, GRSG hunters were required to purchase a GRSG hunting validation. This requirement provided a means to collect better harvest estimates from a sample of GRSG hunters through a telephone survey. Approximately 4,400 hunters harvested 7,200 GRSG in 2009.

Numerous check stations are run in the state to gather information on reproductive success in different areas. In general, the sample size has decreased at these check stations in recent years due to shortened seasons and reduced hunter participation.

3.10 Travel Management

3.10.1 Conditions on BLM-Administered Lands

Travel and transportation are integral parts of virtually every activity that occurs on BLM-administered lands. The BLM has taken a comprehensive approach to travel and transportation management (TTM). It is an interdisciplinary approach to travel and transportation planning and management that addresses resource uses and associated access to BLM-administered lands and waters, including motorized, nonmotorized, mechanical, and animal-powered modes of travel.

Travel and transportation management planning means providing clear and specific direction that addresses public and administrative access needs on the proper levels of land and water for all modes of travel. The TTM process addresses variability among landscapes, users' interests, equipment options, and cultural and biological resource constraints. The primary

goal of TTM is to develop a systematic network of routes with appropriately designated uses that provides opportunities for a diverse set of activities to occur on BLM-administered lands, such as recreation, energy development, grazing, and wildlife management. Travel management objectives serve as the foundation for appropriate travel and access prescriptions.

There is considerable overlap between travel management and all other uses on BLM-administered lands. For example, many people visit BLM-administered lands for recreation purposes. For these visitors, a route system may serve as either a means to reach a destination where the activity occurs (e.g., a road to a trailhead or parking area) or as the focus of the recreation activity itself (e.g., four-wheel driving, hiking, or horseback riding trails).

To reduce the duplication of narrative between travel management and the other sections of this document, this section addresses only public travel and access (i.e., OHV management area designations, route designations, types of travel, and seasonal area limitations). The interrelated recreation components, such as OHV use, are addressed under **Section 3.9**, Recreation.

Modes of Travel

Visitors to BLM-administered lands use roads and trails for a variety of activities involving various modes of travel. Motorized travel in the planning area ranges from standard passenger vehicles driving on maintained roads to OHVs operating on primitive roads and trails. OHV is synonymous with off-road vehicle, as defined in 43 CFR 8340.0-5(a):

> Off-road vehicle means any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: 1) Any nonamphibious registered motorboat; 2) Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; 3) Any vehicle whose use is expressly authorized by the authorized officer or otherwise officially approved; 4) Vehicles in official use; and 5) Any combat or combat-support vehicle when used in times of national defense emergencies.

OHVs commonly used in the planning area include off-road motorcycles, all-terrain vehicles, utility terrain vehicles, jeeps, specialized 4-by-4 trucks, and snowmobiles. Other modes of travel include mountain biking, cross-country skiing, snowshoeing, horseback riding, pack animal driving, hiking, boating, hang-gliding, paragliding, ballooning, and wheelchairs. The type and amount of use and the location of roads and trails influence physical, social, and administrative recreation setting and the overall quality of the recreation experience.

Travel Designations

Executive Order 11644 and 43 CFR 8340 both require the BLM to designate all BLM-administered lands nationally as open, closed, or limited for OHV use.

Open
Areas designated as Open are areas where all types of vehicle use are permitted at all times anywhere in the area. Use is subject to any operating regulations and vehicle standards established in other parts of the CFR.

Limited
Areas designated as Limited are areas restricted at certain times, in certain areas, or to certain vehicular use. These restrictions may be of any type but can generally be accommodated within the following categories: numbers of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on existing roads and trails; use on designated roads and trails; and other restrictions.

Closed
Areas designated as Closed are areas restricted at certain times, in certain areas, and to certain vehicular use. These restrictions may be of any type but can generally be accommodated within the following type of categories: numbers of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on existing roads and trails; use on designated roads and trails; and other restrictions.

Federal Regulations
Route designation criteria are described in 43 CFR 8342.1 and state:

> The authorized officer shall designate all public lands as open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:
>
> (a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
>
> (b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.
>
> (c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.
>
> (d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.

National Guidance

On a national level and in response to increasing demand for motorized and mechanized recreation trails on BLM-administered lands, the BLM first developed an OHV strategy and then a mountain bike strategy. These strategies emphasize that the BLM should be proactive in seeking travel management solutions that conserve natural resources while providing for ample recreation opportunities.

The BLM released the current version of the Land Use Planning Handbook (H-1601-1) in March 2005. Guidance on determining Open, Limited, and Closed OHV Area designations during the planning process was incorporated into the Comprehensive Trails and Travel Management Section (Appendix C, Section II D).

Additional TTM guidance continued to be developed and culminated with the release of the Travel and Transportation Management Manual (1626) in July 2011. Current policy states that Open areas will be limited to a size that is geographically identifiable and can be effectively managed and that expansive open areas allowing cross-country travel will not be designated in LUP revisions or new travel management plans.

The Travel and Transportation Handbook (H-8342) was released in March of 2012. It provides detailed guidance using the designation criteria in 43 CFR 8342.1 for area and route selection. It includes guidance for developing other implementation plans including but not limited to sign plans, education and outreach plans, law enforcement plans, and maintenance plans.

3.10.2 Conditions on National Forest System Lands

The Forest Service published its Travel Management Rule in 2005. It required each national forest to designate roads, trails, and areas open or closed to motor vehicles. Designations were made in accordance with criteria described in Executive Order 11644 and included the type of vehicle and, if appropriate, time of year for motor vehicle use. A given route, for example, could be designated for use by motorcycles, ATVs, or street-legal vehicles. Once designation was complete, the rule prohibited motor vehicle use off the designated system.

In addition to its formal regulations, the Forest Service developed TTM planning guidance, including the Travel Management Manual, FSM 7700 (2008), and the Travel Planning Handbook, FSH 7709.55 (2008).

Federal Regulations

The criteria for Forest Service route designation are found in 36 CFR 212.55 (a), General criteria for designation of National Forest System roads, trails, and areas on National Forest System lands and state:

> In designating National Forest System roads, National Forest System trails, and areas on National Forest System lands for motor vehicle use, the responsible official shall consider effects on National Forest System natural and cultural resources, public safety, provision of recreational opportunities, access needs, conflicts among uses of National Forest System lands, the need for maintenance and administration of roads,

trails, and areas that would arise if the uses under consideration are designated; and the availability of resources for that maintenance and administration.

(b) Specific criteria for designation of trails and areas. In addition to the criteria in paragraph (a) of this section, in designating National Forest System trails and areas on National Forest System lands, the responsible official shall consider effects on the following, with the objective of minimizing:

(1) Damage to soil, watershed, vegetation, and other forest resources;

(2) Harassment of wildlife and significant disruption of wildlife habitats;

(3) Conflicts between motor vehicle use and existing or proposed recreational uses of National Forest System lands or neighboring Federal lands;

(4) Conflicts among different classes of motor vehicle uses of National Forest System lands or neighboring Federal lands. In addition, the responsible official shall consider:

(5) Compatibility of motor vehicle use with existing conditions in populated areas, taking into account sound, emissions, and other factors.

3.10.3 Current Conditions

Travel planning is complete for all lands administered by the Forest Service in the planning area. National Forest System lands with a designated route system are considered the same as the Limited designation on lands administered by BLM.

The BLM has not conducted travel management planning throughout the sub-region. In areas with a designation of Limited, motorized use will be limited to existing roads until individual route selection and designation occurs during subsequent implementation-level planning. Current travel management designations are presented by field office in **Table 3-30**.

Table 3-30
Travel Management Designations within the Planning Area

Field Office	Open	Limited	Closed
Bruneau	**0**	**975,300**	**210,400**
BLM	**0**	975,300	210,400
Forest Service	**0**	**0**	**0**
Burley	**0**	**949,400**	**19,400**
BLM	**0**	608,900	19,400
Forest Service	**0**	340,500	**0**
Challis	**0**	**1,064,700**	**13,400**
BLM	**0**	706,600	13,400
Forest Service	**0**	358,100	**0**
Dillon	**0**	**1,069,100**	**10,700**

Table 3-30
Travel Management Designations within the Planning Area

Field Office	Open	Limited	Closed
BLM	**0**	671,800	10,700
Forest Service	**0**	397,300	**0**
Four Rivers	**1,320**	**433,600**	**1,420**
BLM	50	351,500	1,420
Forest Service	1,260	82,100	**0**
Jarbidge	**0**	**961,800**	**55,200**
BLM	**0**	961,800	55,200
Forest Service	**0**	**0**	**0**
Owyhee	**0**	**813,000**	**224,400**
BLM	**0**	813,000	224,400
Forest Service	**0**	**0**	**0**
Pocatello	**0**	**406,100**	**310**
BLM	**0**	320,900	310
Forest Service	**0**	85,300	**0**
Salmon	**0**	**471,200**	**14,400**
BLM	**0**	348,300	14,400
Forest Service	**0**	122,800	**0**
Shoshone	**0**	**1,253,100**	**139,600**
BLM	**0**	1,214,900	139,600
Forest Service	**0**	38,200	**0**
Upper Snake	**40**	**1,930,200**	**16,900**
BLM	**0**	1,564,700	16,900
Forest Service	40	365,400	**0**
Other – Forest Service Raft River	**0**	**71,900**	**0**
Total Acres:	**1,350**	**10,399,300**	**706,200**

Source: BLM GIS 2015

3.10.4 Regional Context

Table 3-31 display data for roads within GRSG habitat in the planning area. In each table, data are presented by surface management agency and their occurrence within occupied GRSG habitat in the planning area and MZs that overlap the planning area.

Table 3-31
Miles of Roads within GRSG Habitat

Surface Management Agency	Miles within PGH			Miles within PPH		
	Planning Area	MZ II/VII[1]	MZ IV	Planning Area	MZ II/VII[1]	MZ IV
BLM	3,408	17,000	6,500	12,500	20,100	18,900
Forest Service	1,001	500	1,200	1,405	200	1,900
Tribal and other federal	600	2,700	700	1,000	1,600	1,000
Private	3,600	19,600	7,200	4,700	15,500	8,700
State	801	2,100	1,300	1,613	2,800	1,800

Table 3-31
Miles of Roads within GRSG Habitat

Surface Management Agency	Miles within PGH			Miles within PPH		
	Planning Area	MZ II/VII[1]	MZ IV	Planning Area	MZ II/VII[1]	MZ IV
Other	100	0	100	100	100	100

Source: Manier et al. 2013
[1]BER combined acres for MZs II and VII

Table 3-32
Acres of Roads within GRSG Habitat

Surface Management Agency	Acres within PGH[1]			Acres within PPH[1]		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	36,600	188,800	68,500	130,700	209,600	199,400
Forest Service	10,900	5,600	12,900	14,100	2,900	20,100
Tribal and Other Federal	7,600	28,600	8,000	10,900	17,100	11,200
Private	42,300	236,700	83,500	53,000	170,800	100,900
State	9,200	23,400	14,100	17,200	30,200	18,800
Other	800	200	800	1,200	900	1,200

Source: Manier et al. 2013
[1]Assumes footprint of 73.2 meters for interstate highways, 25.6 meters for primary and secondary highways, and 12.4 meters for other roads.
[2] BER combined acres for MZs II and VII

3.11 Lands and Realty

The primary goal of the BLM Lands and Realty program is to enhance the administration of public landownership to provide the most effective configuration of lands and interests in land, consistent with land use plans developed through a full and open public involvement process, and to further the purposes of FLPMA. The objectives of the Forest Service landownership adjustment program are to achieve the optimum landownership pattern for the protection and management of resource uses, settle land title claims, and provide resource administrators with title information about the use of and resources on the land they administer.

Lands and realty actions can generally be divided between land tenure adjustments and land use authorizations. Land tenure adjustments focus on land exchange, acquisition (including purchase and easement acquisition), and disposal. Withdrawals, while managed as part of land and realty, are administrative actions that do not affect land tenure. Land use authorizations consist of ROWs and other leases or permits for the use and occupancy of public land.

Forest Service land use plan prescriptions are similar to BLM exclusion and avoidance areas. Prescriptions can restrict or prohibit certain uses in a planning area. It should also be noted

that the Forest Service grants special use authorizations (granting ROWs, permits, easements, and leases), while the BLM grants ROWs on their respective agency lands. Lastly, the Forest Service completes landownership adjustments (purchase, exchange, donation, and ROW acquisition), while the BLM conducts land tenure adjustments (exchanges, disposals, and acquisitions).

3.11.1 Conditions within the Planning Area

The lands within the planning area are owned and may be managed by multiple federal, state, and local agencies, as well as private landowners. The configuration of landownerships and their proximity to each other is an important factor when considering land tenure adjustments and evaluating land use authorization applications. The planning area contains lands managed by several federal and state agencies, the Bureau of Indian Affairs (in trust for Native American tribes), and private lands. **Table 3-33** shows the acreage and overall percent ownership for each land manager in the planning area.

Table 3-33
Acres of GRSG Habitat by Surface Management

Surface Land Management	Acres PPH	Acres PGH	Acres Outside Habitat	Total Acres
BLM Total	**7,272,100**	**1,971,800**	**3,205,100**	**12,449,000**
BLM – Idaho	6,811,400	1,749,900	2,982,900	11,544,200
BLM – Montana	460,600	222,000	222,200	904,800
Forest Service Total	**962,400**	**898,100**	**11,391,900**	**13,252,400**
Forest Service - Idaho	728,200	664,100	9,718,800	11,111,100
Forest Service - Montana	162,300	234,000	1,673,100	2,069,400
Forest Service - Utah	71,900	0	0	71,900
US Fish and Wildlife Service	39,700	11,700	30,000	81,400
National Park Service	27,200	222,700	261,800	511,700
Department of Energy	378,000	182,500	1,670	562,200
Department of Defense	11,100	37,700	78,500	127,400
Bureau of Reclamation	3,250	3,260	109,800	116,300
Indian Tribe	143,900	10,700	189,000	343,600
Idaho State	642,400	377,500	804,500	1,824,400
Montana State	221,665	167,455	431,995	821,115
Utah State	630	0	0	630
Private	2,127,600	1,857,200	9,652,900	13,637,700
Other	87,800	32,200	294,400	414,400
Total Acres:	**11,921,200**	**5,756,600**	**26,164,500**	**43,842,300**

Source: BLM GIS 2015

Within the planning area, BLM-administered lands have been classified for retention or disposal pursuant to Section 7 of the Taylor Grazing Act (43 USC 315f), FLPMA, and 43 CFR Parts 2400 and 2500; BLM-administered lands have also been identified as ROW exclusion or avoidance areas, and ROW corridors, pursuant to FLPMA and 43 CFR Part 2800. Section 205 of the FLPMA authorizes the Secretary of Agriculture to acquire access (lands or interest therein) over non-federal lands to units of the National Forest System by

purchase, exchange, donation, or eminent domain. Several acts of Congress authorize occupancy and use of National Forest System lands and interests in lands administered by the Forest Service. The applicable statutory authority determines the appropriate special use authorization. For example, some permits and temporary permits are issued under the provisions of the Organic Administration Act of June 4, 1897 (16 USC 477-482, 551), while some easements and leases and other types of permits are issued under the provisions of Title V, Federal Lands Policy and Management Act of October 21, 1976 (43 USC 1761-1771), and the Forest Roads and Trails Act of 1964.

Table 3-34 lists the number of acres identified with land tenure classifications and ROW designations in the planning area. **Figure 3-6** and **Figure 3-7** provide an overview of the extent of lands currently occupied by ROWs.

Table 3-34
Land Classifications/Designations in Planning Area (Acres)

Land Status	Acres within Planning Area
Withdrawals (total)	4,032,400
Withdrawals (BLM)	3,827,900
Withdrawals (Forest Service)	204,500
ROW Avoidance (total)	8,306,100
ROW Avoidance (BLM)	1,134,300
ROW Avoidance (Forest Service)	7,171,800
ROW Exclusion (total)	3,333,200
ROW Exclusion (BLM)	1,061,500
ROW Exclusion (Forest Service)	2,271,700

Source: BLM GIS 2013, 2015

Land Tenure Adjustments

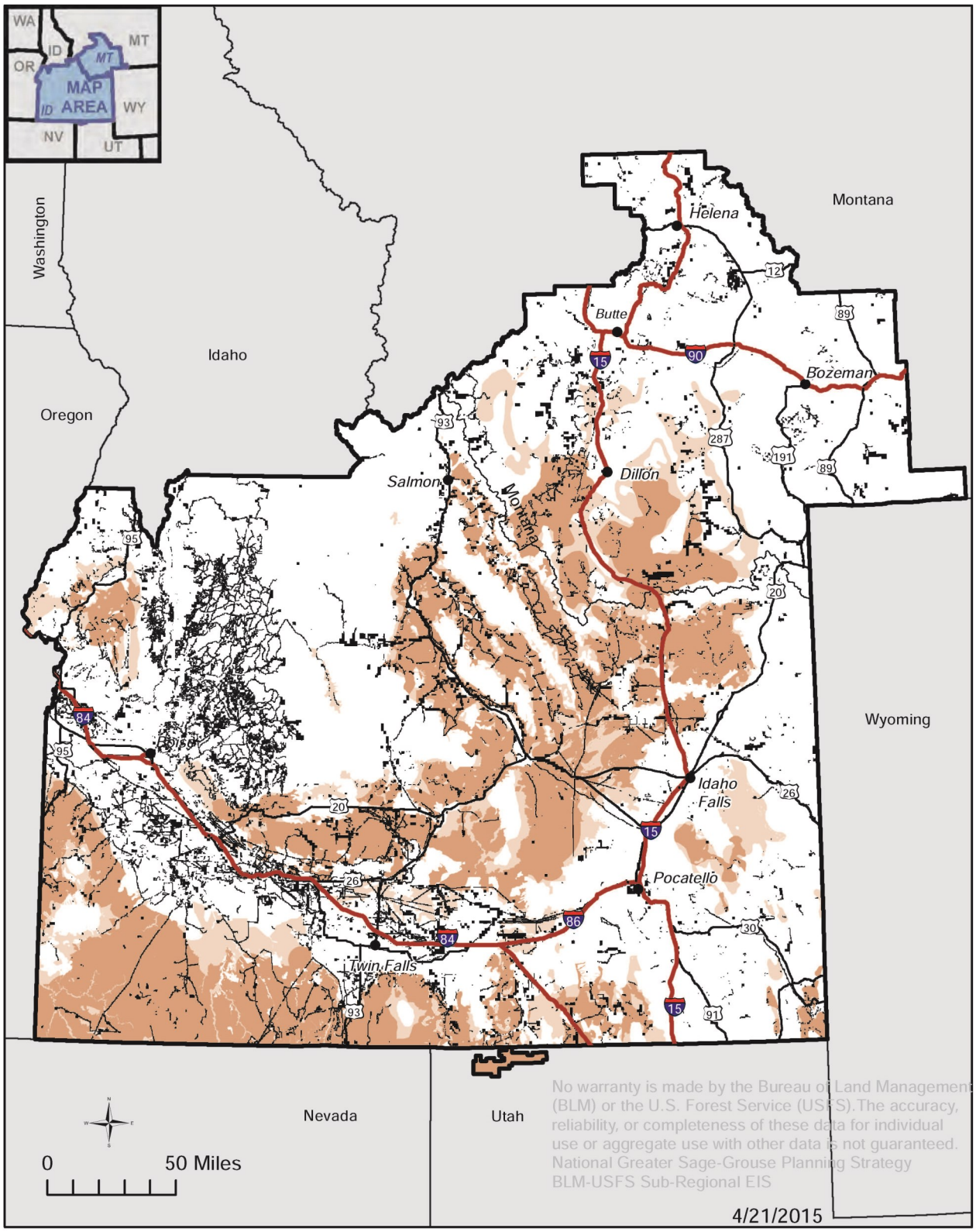
Landownership (or land tenure) adjustment refers to those actions that result in the disposal, acquisition, purchase, exchange, or donation of land or acquisition or grant of ROW by the BLM ; or purchase, exchange, or donation of land, or ROW acquisition by the Forest Service. Section 102(a) of FLPMA requires that land be retained in federal ownership unless, as a result of land use planning, it is determined that disposal of certain parcels will service in the national interest. In all land tenure adjustments, keeping the surface and mineral estate intact on both the lands disposed of and acquired would benefit the future owners and their use of the land.

Disposals

Disposal areas include tracts of land that are economically difficult to manage, and/or parcels that could serve important public objectives, including, but not limited to, expansion of communities and economic development. These lands are usually disposed of through exchanges or land sales.

The Forest Service has very limited authority to sell or otherwise dispose of National Forest System lands. Most authorities allowing the sale of lands have specific criteria or identify

Figure 3-6
Authorized Rights-of-Way in the Planning Area

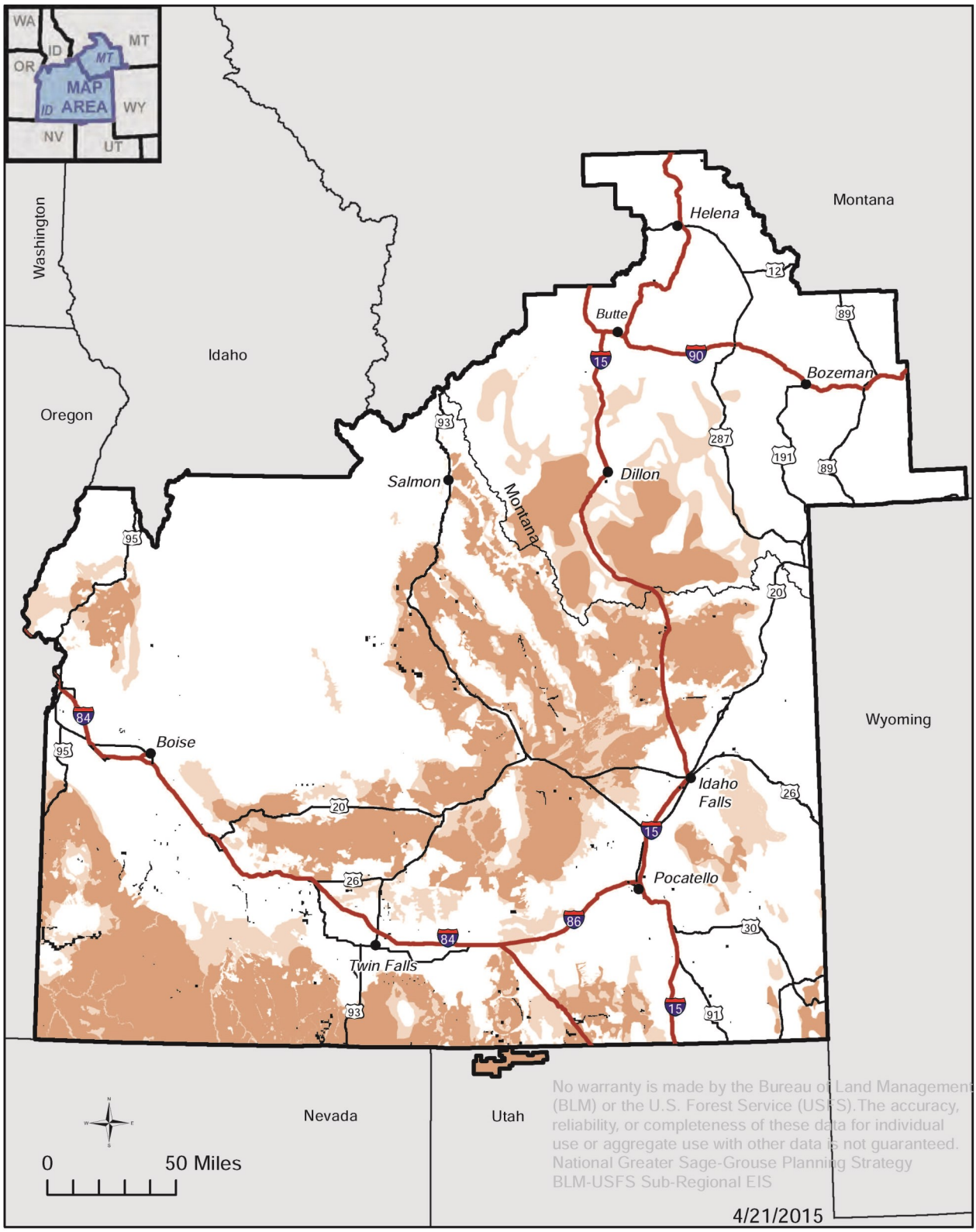


Authorized Rights of Way as of 4/26/2013

Preliminary Priority Management Atea

Preliminary General Management Area

Figure 3-7
Pending and Expired Rights-of-Way in the Planning Area



Pending and Expired Rights of Way as of 4/26/2013
Preliminary Priority Management Atea
Preliminary General Management Area

only a small number of properties for sale or disposal in a limited geographical area. The tool used most often for conveyance of lands within National Forest boundaries is land exchange.

LUPs relevant to the planning area identify 1,812,300 acres of BLM-administered land for disposal. Of these, 559,300 acres lie within PPH, while 257,400 acres lie within PGH. No National Forest System land has been identified for disposal in the planning area.

Exchanges. Exchange is the process of trading lands or interests in lands and serves as a viable tool for the BLM to accomplish its goals and mission. Exchanges must be in the public interest and conform to applicable BLM LUPs. The lands to be exchanged must be of approximately equal monetary value and located within the same state. BLM-administered lands may be exchanged for lands or interests in lands owned by corporations, individuals, or government entities. Except for those exchanges that are congressionally mandated or judicially required, exchanges are voluntary and discretionary transactions with willing landowners.

Land exchanges are used to bring lands and interests in land with high public resource values into public ownership, consolidate land and mineral ownership patterns to achieve more efficient management of resources and BLM programs, and dispose of BLM-administered land parcels identified for disposal through the planning process.

National Forest System lands are exchanged to achieve a desired national forest landownership pattern that supports forest land and resource goals and objectives, addresses fragmentation, reduces future management costs, and responds to urban and community needs. The objective of the Forest Service land exchange program is to use land exchanges as a tool, in concert with the purchase program, to implement Forest land and resource management planning and direction; to optimize National Forest System landownership patterns; to further resource protection and use; and to meet the present and future needs of the American people.

There are land exchanges pending on 76,982 acres (37,141 federal acres and 39,841 nonfederal acres) within the planning area. One land exchange totaling 52 acres has been identified on National Forest System land in the planning area.

Land Sales. Section 203 (a) of FLPMA provides for sale of public lands if one of the following criteria is met: (1) the tract is difficult and uneconomic to manage as part of the public lands and is not suitable for management by another federal agency; (2) such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or (3) disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development that cannot be achieved prudently or feasibly on land other than public land. Public lands that have been identified for consideration for disposal by sale in the approved LUPs meet one or more of these criteria. Public lands must be sold at fair market value.

Section 209 of FLPMA authorizes the conveyance of federal minerals through sale and specifies the conditions under which the mineral rights would be conveyed. The mineral rights could be sold with the land surface, sold as a separate transaction, or retained. Conveyance of mineral rights has occurred only in conjunction with the sale of land.

The Forest Service has very limited authority to sell or otherwise dispose of National Forest System lands. Most authorities allowing the sale of lands have specific criteria or identify only a small number of properties for sale or disposal in a limited geographical area. The tool used most often for conveyance of lands within National Forest boundaries is land exchange. Thus, no National Forest System land has been identified for sale in the planning area.

Withdrawal. Withdrawal are formal actions that accomplish one or more of the following actions:

- Transfers total or partial jurisdiction of federal land between federal agencies
- Segregates (closes) public lands to appropriation under public land laws including mineral laws
- Dedicates public land for a specific public purpose

There are three major categories of formal withdrawals: (1) congressional withdrawals, (2) administrative withdrawals, and (3) Federal Power Act or Federal Energy Regulatory Commission (FERC) withdrawals. Congressional withdrawals are legislative withdrawals made by Congress in the form of public laws (acts of Congress). Administrative withdrawals are made by the President, Secretary of the Interior, or other authorized officers of the executive branch of the federal government. Federal Power Act or FERC withdrawals are power project withdrawals established under the authority of the "Federal Power Act" of 1920. Such withdrawals are automatically created upon filing an application for a hydroelectric power development project with FERC.

Federal policy now restricts all withdrawals to the minimum time and acreage required to serve the public interest, maximize the use of withdrawn lands consistent with their primary purpose, and eliminate all withdrawals that are no longer needed. Management and adjustment of withdrawals focuses on the establishment, management, modification, and revocation of withdrawals.

The purpose of a withdrawal is to withhold National Forest System land from operation of various federal laws, to either reserve the area for some future use or to maintain other public values of the area. A withdrawal may prevent the land from leaving federal ownership, may prevent mineral leasing or may prevent entry under the mining laws. In recent years most withdrawals prevent entry under the mining laws since it is a nondiscretionary action.

The main object of a Forest Service withdrawal is to protect administrative sites and other capital improvements, and to protect designated management areas not compatible with mining activity. Other agencies such as FERC and the Bureau of Reclamation often request

withdrawal of National Forest System land for their purposes. The Department of Defense use of National Forest System lands is by special use authorization, agreement, or the Interchange Act of 1956.

There are currently 28 withdrawals in the planning area, encompassing 4,025,900 acres of BLM-administered lands. Of these withdrawals, 1,437,200 acres reside on PPH, and 782,000 acres reside on PGH. There are approximately 584,100 acres of Forest Service withdrawals in the planning area.

Acquisition

Acquisition of and interests in lands are important components of the BLM's land tenure adjustment strategy. Acquisition of lands can be pursued to facilitate various resource management objectives. Acquisitions, including easements, can be completed through exchanges (see above), land purchases, or donations.

The Forest Service purchases lands through the Land and Water Conservation Fund to protect critical resource areas and provide increased public recreation opportunities. Land donations are accepted to consolidate National Forest System lands and protect critical resource areas. The legal public use of National Forest System lands is improved by acquiring ROWs for roads and trails.

Lands and interests in lands are acquired for the following actions:

- Improve management of natural resources through consolidation of federal, state, and private lands
- Secure key property necessary to protect endangered species, promote biological diversity, increase recreational opportunities, and preserve archeological and historical resources
- Implement specific acquisitions authorized or directed by acts of Congress

Forest Service objectives in lands or interests in lands through purchase, donation, and rights-of-way are to:

- Enhance the multiple use and sustained yield of the goods and services from National Forest System lands
- Protect and improve the quality of renewable resources
- Protect and preserve important historic, cultural, and natural aspects of the national heritage
- Provide for access, use, and enjoyment of the forest resources by the public
- Improve administrative efficiency and effectiveness of National Forest System lands

One Forest Service land exchange is proposed in Idaho that would affect 52 acres of land within PGH.

Purchases. The BLM has the authority, under Section 205 of FLPMA, to purchase lands or interests in lands. Similar to other acquisitions, purchase is used to acquire key natural resources or to acquire legal ownership of lands that enhance the management of existing public lands and resources. Acquiring lands and interests in lands through purchase helps consolidate management areas to strengthen resource protection. Acquisitions are used primarily to enhance recreational opportunities and acquire crucial wildlife habitats.

Land Use Authorizations

The most common form of authorization to permit uses of BLM-administered lands by commercial, private, or governmental entities is the ROW grant. A ROW grant is an authorization to use a specific piece of BLM-administered land for certain projects such as roads, pipelines, transmission lines, or communication sites.

Some uses of BLM-administered lands are short-term uses and authorized through land use permits such as filming activities or apiary sites (bee hives).

Authorizations grant rights and privileges for a specific use of the land for a specific period of time. The BLM's objective is to grant land use authorizations to any qualified individual, business, or government entity, and to direct and control the use of authorizations on BLM-administered lands in a manner that:

- protects the natural resources associated with BLM-administered lands and adjacent lands, whether private or administered by a government entity
- prevents unnecessary or undue degradation to BLM-administered lands
- promotes the use of authorizations in common, considering engineering and technological compatibility, national security, and area LUPs
- coordinates, to the fullest extent possible, all BLM actions with local, state, Native American, and other federal agencies; interested individuals; and appropriate quasi-public entities (43 CFR 2801.2)

Forest Service special use permits authorize and administer use of National Forest System lands by individuals, companies, organized groups, other federal agencies and state or local levels of government in a manner that protects natural resource values and public health and safety. For example, special use permits authorize uses that contribute to the nation's infrastructure for generating and transmitting energy resources, such as: electric transmission facilities, oil and gas pipelines, hydropower facilities, and wind and solar facilities. They authorize uses for communications, commerce, public health and safety, and homeland security, such as fiber-optic and wireless telecommunications, water development systems, federal, state, and local highways.

The Forest Service objectives of granting ROWs for roads and trails are to:

- Provide ROWs for the public road system, including the federal-aid system, when such roads cross National Forest System lands or interests in lands
- Accommodate the access needs for the protection, development, and utilization of lands and resources owned by private interests or administered by public agencies when the planned forest development road system and public road system do not meet those needs adequately
- Protect and enhance the quality of air, water, soil, and natural beauty of National Forest System lands in the granting of any ROW
- Cooperate with intermingled and adjacent landowners in developing roads that serve the needs of both parties through the exchange of ROWs
- Provide access across National Forest System lands to private land that is adequate to secure the owners thereof of reasonable use and enjoyment of their land without unnecessarily reducing the management options of the Forest Service or damaging National Forest System lands or resources

ROW Avoidance and Exclusion Areas
Areas closed to mineral leasing, having a no surface occupancy restriction, or otherwise identified as unsuitable for surface disturbance or occupancy are generally identified as avoidance or exclusion areas for ROW authorizations. Restrictions and mitigation measures could be modified on a case-by-case basis for avoidance areas, depending on impacts on resources, while exclusion areas are strictly prohibited from ROW development. See **Table 3-34** for the number of acres currently identified as ROW avoidance and exclusion areas.

ROW Corridors
Designated utility corridors are developed to concentrate the effects of utility lines in manageable locations on BLM-administered and National Forest System lands, which often provide suitable locations for utility transmission lines. The corridors may contain power line, transcontinental fiber optic communications cables, and trans-state gas pipelines. Designated utility corridors are designated in BLM and Forest Service LUPs. Such corridor designations are relatively uncommon in the sub-region. The mere presence of a transmission line or pipeline does not imply that it is within a formally designated corridor. Under this planning effort there are no rescinded designations or changes to the character of previously existing designated corridors; for example, all West-Wide Energy Corridors in Idaho allow for both overhead and buried utilities; those designations will not change. Also, this plan does not attempt to establish any new formally designated ROW corridors.

For PPMA, new utility pipelines or transmission lines exceeding 50kV are excluded, unless they can be sited within a utility corridor previously designated in a BLM or Forest Service LUP (and subject to appropriate BMPs and siting considerations for GRSG). See **Table 3-34** for the number of acres currently identified as ROW avoidance and exclusion areas.

Renewable Energy
Solar, wind, biomass, and geothermal (which is managed as a fluid leasable mineral) are considered renewable energy resources. Renewable energy resources all have different

requirements related to economic development; however, some issues are common to all renewable energy resources, including connection to the existing power transmission facilities and compatibility with existing federal land use.

Wind and solar resource facilities are permitted with ROW authorizations, through the Lands and Realty Program. Geothermal resources, as mentioned above, are considered fluid leasable minerals (See **Section 3.12**, Mineral Resources). As a result, management actions related to the Lands and Realty Program and leasable minerals could affect renewable energy resources. Special management designation areas, such as ACECs and WSAs, could also affect the use of renewable energy resources by limiting the location of these facilities.

Forest Service renewable energy generation and transmission includes wind, solar, and geothermal energy facilities. Section 501(a) (4) of the FLPMA authorizes the Forest Service to issue ROWs for the use and occupancy of National Forest System lands for generation, transmission, and distribution of electric energy. The Energy Policy Act of 2005 recognizes the Forest Service's role in meeting the renewable energy goals of the United States.

Consistent with Forest Service policies and procedures, the use and occupancy of National Forest System lands for alternative energy production, such as wind energy development, are appropriate and will help meet the energy needs of the United States. Permits for solar energy power facilities are issued only if non-National Forest System lands are not available and if adverse impacts can be minimized. Permits for geothermal energy power facilities are issued only if feasibility studies have determined that it is not feasible to transmit geothermal water to a power-generating facility on non-National Forest System lands and if adverse impacts can be minimized.

3.11.2 Trends

Land Use Authorizations

Land use authorization requests are customer driven. Within the planning area most authorizations processed are primarily for roads, electric distribution lines, and communications sites. Major ROWs are those large-scale utility projects, such as for 500kV electric transmission, wind, and solar development. Land use authorization requests are customer driven.

Over the last 6 years in the planning area, the BLM has received a number of applications for major transmission line projects to traverse the state. Prior to that time, it had been over 20 years since major transmission line applications were received by the BLM. The BLM has not received any applications for utility-scale solar production in the planning area, nor are there solar resources comparable to the areas where utility-scale solar production projects are being proposed or built.

Over the last six years, the BLM has authorized and then relinquished a ROW for wind development and has two pending applications. Wind testing sites have been authorized on BLM lands in the planning area, though no wind developments have been authorized and constructed.

3.11.3 Regional Context

Table 3-35 display data for GRSG habitat in the planning area (Manier et al. 2013). In each table, data are presented by surface management agency and their occurrence within occupied GRSG habitat in the planning area and across the entire MZs.

The conversion of sagebrush habitat to agricultural land or urban areas can result in GRSG habitat becoming fragmented and increases in domestic predators such as cats and dogs (Knick and Rotenberry 1995). **Table 3-35** illustrates the locations where agricultural or urban development could occur given the location within a city boundary.

Table 3-35
Acres of GRSG Habitat within City Limits

Surface Management Agency	Acres within PGH			Acres within PPH		
	Planning Area	MZ II/VII[1]	MZ IV	Planning Area	MZ II/VII[1]	MZ IV
BLM	300	106,200	19,700	1,100	37,400	1,100
Forest Service	700	24,600	700	0	21	0
Tribal and other Federal	0	2,500	100	0	32,400	0
Private	4,600	209,300	43,400	4,202	79,100	4,100
State	51	10,900	2,800	31	6,800	31
Other	38	0	38	0	0	0

Source: Manier et al. 2013
[1]BER combined acres for MZs II and VII

Communication towers, transmission lines, electrical distribution lines and other vertical structures provide additional perching opportunities for ravens and other birds of prey can result in habitat fragmentation, habitat avoidance, and can increase vehicle traffic during maintenance operations (USFWS 2010a). **Table 3-36** presents the number of communication towers in each MZ.

Table 3-36
Number of Communication Towers within GRSG Habitat

Surface Management Agency	Number[1] within PGH			Number[1] within PPH		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	4	18	5	11	8	7
Forest Service	0	2	0	0	0	0
Tribal and other federal	8	5	8	1	2	1
Private	5	54	7	8	10	7
State	0	0	0	0	0	0
Other	0	0	0	0	0	0

Source: Manier et al. 2013
[1]Displays the number of Federal Communication Commission communication towers.
[2]BER combined acres for MZs II and VII

Table 3-37 shows the portion of transmission lines in occupied habitat in the planning area and MZs.

Utility corridors are a planning tool that enables the BLM and Forest Service to identify desired locations for future infrastructure. **Table 3-38** provides the miles and acres of Section 368 Energy corridors for occupied habitat.

Table 3-37
Acres of Transmission Lines within GRSG Habitat

Surface Management Agency	Acres[1] within PGH			Acres[1] within PPH		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	29,600	172,000	42,000	56,400	130,800	83,600
Forest Service	2,000	3,000	3,500	4,432	2,900	5,800
Tribal and other federal	4,683	33,900	4,700	10,700	7,500	10,700
Private	29,400	206,000	57,900	23,000	119,500	47,000
State	9,330	20,000	11,200	5,912	20,100	6,500
Other	900	100	900	2,800	1,000	2,800

Source: Manier et al. 2013
[1]Includes transmission lines greater than 115 kilovolts (kV) and assumes a 656-foot-wide (200 meter) footprint.
[2]BER combined acres for MZs II and VII

Table 3-38
Acres of Utility Corridors within GRSG Habitat

Surface Management Agency	Acres within PGH[1]			Acres within PPH[1]		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	61,700	269,000	90,200	54,100	151,600	131,900
Forest Service	300	1,200	300	900	2,900	900
Tribal and other federal	700	6,500	700	0	0	0
Private	11,200	190,100	21,900	12,600	84,100	34,000
State	6,500	15,300	6,800	3,900	13,900	4,100
Other	0	0	0	0	2,200	0

Source: Manier et al. 2013
[1]Centerlines for proposed locations of Section 368 energy corridors were buffered by varied widths, based on corridor width attribute data, to create the direct area of influence.
[2]BER combined acres for MZs II and VII

Railroads can fragment GRSG habitat (Knick and Rotenberry 1995). **Table 3-39** and **Table 3-40** show the railroad miles and acres, respectively, in occupied habitat.

Table 3-39
Miles of Railroads within GRSG Habitat

Surface Management Agency	Miles within PGH			Miles within PPH		
	Planning Area	MZ II/VII[1]	MZ IV	Planning Area	MZ II/VII[1]	MZ IV
BLM	66	200	100	84	100	100
Forest Service	1	0	1	8	0	8
Tribal and Other Federal	14	42	14	19	9	19
Private	42	700	300	39	300	100
State	4	100	0	0	0	0
Other	0	0	0	0	1	0

Source: Manier et al. 2013
[1]BER combined acres for MZs II and VII

Table 3-40
Acres of Railroads within GRSG Habitat

Surface Management Agency	Acres within PGH[1]			Acres within PPH[1]		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	300	1,500	500	200	500	400
Forest Service	8	0	8	58	0	58
Tribal and Other Federal	83	300	84	77	12	77
Private	200	5,100	900	200	1,400	400
State	21	400	24	21	75	21
Other	0	0	0	0	11	0

Source: Manier et al. 2013
[1]Assumes footprint of 9.4 meters.
[2]BER combined acres for MZs II and VII

Table 3-41
Acres of Vertical Obstructions within GRSG Habitat

Surface Management Agency	Acres[1] within PGH			Acres[1] within PPH		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	100	600	200	100	300	200
Forest Service	35	28	36	11	0	22
Tribal and other federal	51	100	100	11	0	11
Private	100	1,400	200	63	300	200
State	0	100	0	0	100	0
Other	3	0	0	0	0	0

Source: Manier et al. 2013
[1]Derived from dataset containing Federal Communication Commission communication towers and Federal Aviation Administration vertical obstructions. Excludes wind towers. Assumes a buffer of 56.4 meters (2.47 acres) around each obstruction.
[2]BER combined acres for MZs II and VII

Table 3-42
Acres of Wind Towers within GRSG Habitat

Surface Management Agency	Acres within PGH[1]			Acres within PPH[1]		
	Planning Area	MZ II/VII	MZ IV	Planning Area	MZ II/VII	MZ IV
BLM	0	0	0	0	0	0
Forest Service	0	0	0	0	0	0
Tribal and other federal	0	0	0	0	0	0
Private	3	600	200	0	18	0
State	0	100	0	0	0	0
Other	0	0	0	0	0	0

Source: Manier et al. 2013
[1]Assumes a footprint of 62 square meters per wind tower.
[2]BER combined acres for MZs II and VII

Table 3-43
Acres of Wind Energy Authorizations within GRSG Habitat

Surface Management Agency	Acres within PGH			Acres within PPH		
	Planning Area	MZ II/VII[1]	MZ IV	Planning Area	MZ II/VII[1]	MZ IV
BLM	14,000	0	296,500	16,100	0	580,600
Forest Service	0	0	0	0	0	0
Tribal and other federal	100	0	200	0	0	1,700
Private	900	0	2,300	2,100	0	13,900
State	38	0	400	0	0	0
Other	0	0	0	0	0	0

Source: Manier et al. 2013
[1]BER combined acres for MZs II and VII

3.12 Mineral Resources

Fluid Leasable Minerals

The right to drill for and develop fluid minerals, namely oil and gas and geothermal resources, on federal land may only be acquired through a mineral lease, offered and administered by the BLM in accordance with the Mineral Leasing Act of 1920, as amended and supplemented (30 USC 181 et seq.*)*. The limit for a competitive oil and gas lease is 2,560 acres in size, while a geothermal lease can be up to 5,280 acres in size. If an oil and gas lease is not sold during the competitive sale, it may be sold noncompetitively and may be combined with other parcels for a total of 10,240 acres, but the maximum size for a geothermal lease remains 5,280 acres.

The leases have a 10-year term. If there is no discovery in 10 years, the leases expire. There is no renewal for diligence. If there is a discovery, the lease may be held as long as there is

production. The BLM can modify the right conveyed by a lease by attaching a stipulation, which is an enforceable condition of the lease. During the leasing process, the BLM may apply stipulations (for example No Surface Occupancy, Controlled Surface Use, and Timing Limitations) to all or parts of a lease in order to protect a wide range of resources including soils, watersheds, cultural resources, and wildlife (e.g., GRSG). Stipulations may impact the availability of fluid mineral resources on a lease by restricting the timing and/or location of exploration and development activities. On National Forest System lands, the BLM cannot issue a lease without Forest Service consent. Forest Service consent includes stipulations that must be added to the lease to protect the resources on the Forest.

The issuance of a lease does not, in and of itself, authorize any surface-disturbing activities. If a lessee wishes to conduct exploratory drilling, an application for permit to drill must be submitted to the BLM for approval. An environmental analysis is conducted and as a result, the BLM may attach additional, site-specific and activity-specific conditions, called Conditions of Approval or Best Management Practices, to the drilling permit. The Forest Service approves the Surface Use Plan of Operations portion of the application for permit to drill, and may also add COAs. The BLM cannot deny operations on a lease unless the operation would violate other nondiscretionary statutes, such as the ESA or the Clean Water Act. In cases where surface operations would have unacceptable environmental impacts, the BLM's authority to deny operations on the lease, if not specified in a particular statute, must be established in the lease through the use of lease stipulations.

All leases, regardless of whether they have additional stipulations, are offered with standard terms and conditions. In accordance with a 2002 Instruction Memorandum from the BLM Washington Office, all fluid mineral leases must include the following stipulation:

Endangered Species Act Section 7 Consultation Stipulation
The lease area may now or hereafter contain plants, animals or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 USC 1531 et seq., including completion of any required procedure for conference or consultation.

All geothermal and oil and gas leases in Idaho contain the ESA consultation stipulation. There is also a mandatory cultural resource protection stipulation applied to all leases.

Stipulations to protect other resources, such as GRSG, are developed during the land use planning process. Stipulations must be necessary and justifiable: If a lessee is to be prevented from extracting oil and gas on a lease and the prohibition is not mandated by a specific, nondiscretionary statute such as the ESA, the stipulation is necessary and is to be used. A

stipulation is justifiable if there are resource values, uses, and/or users present that cannot coexist with fluid mineral operations, cannot be adequately managed and/or accommodated on other lands for the duration of operations, and provide a greater benefit to the public than that of the fluid mineral operations. If a ground disturbing activity is proposed on the lease during any given year, the authorized officer may modify or waive restrictions if actual conditions do not warrant them.

3.12.1 Conditions within the Planning Area

Oil and Gas

There has never been a single producing oil and gas well in the entire state of Idaho, despite the drilling of over 150 wildcat wells in the state since the early 1900s. As of March 16, 2015, Idaho BLM has two federal oil and gas leases on split-estate lands near Gray's Lake in Bonneville County. The leases total approximately 4,000 acres, 40 of which is BLM surface and the remainder is split-estate. The leases were issued in 2006 for an initial term of 10 years. No drilling or exploration has occurred on any of the leases nor has any activity been proposed; however, a wildcat well was drilled on private land near the Gray's Lake leases in 2007. The well was drilled to approximately 11,000 feet without encountering an economically viable hydrocarbon source. Additionally, a company has drilled numerous wells on private lands in the New Plymouth area of southwest Idaho, and is planning to develop a natural gas field. BLM-administered lands are located near this field and have been nominated for leasing; however leasing is being deferred until completion of the Four Rivers RMP. There is no GRSG habitat in this area.

The Dillon Field Office has 47 active oil and gas leases, none of which are producing, according to LR2000. Approximately 50,000 acres of these leases are in GRSG habitat; however, many leases likely contain timing limitations for other wildlife species, as the Dillon RMP shows that much of the field office is covered by stipulations restricting activities during critical seasons for other wildlife species or prohibiting all surface occupancy.

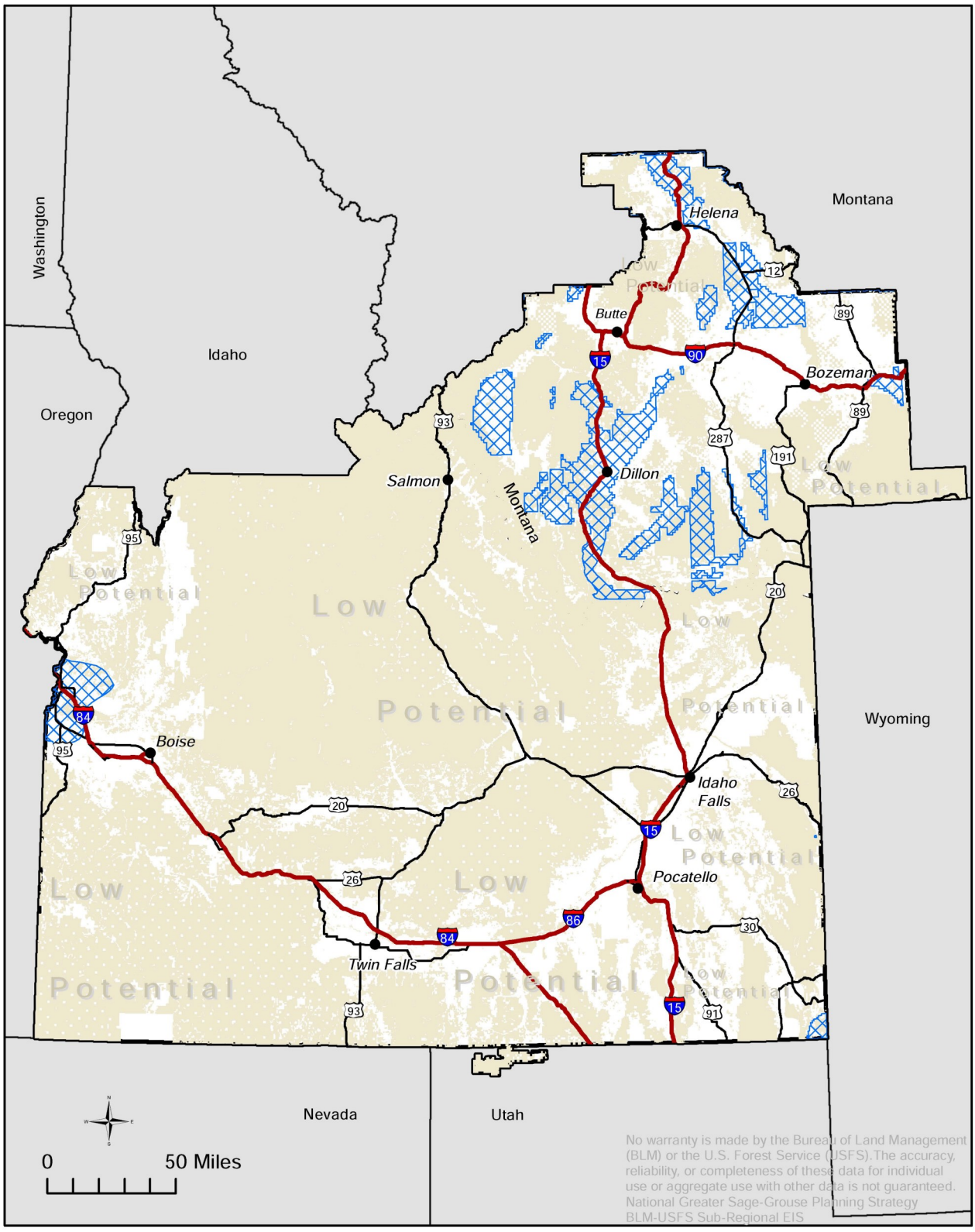
Figure 3-8 depicts the oil and gas potential within the planning area.

Geothermal

Idaho's prospects for development of geothermal resources are better than those for oil and gas. There are currently 19 federal leases in Idaho, covering approximately 48,000 acres; 13 of these acres are in GRSG habitat. Leases are scattered across southern Idaho, but are primarily located near Raft River, Crane Creek, and Parma, Idaho. There are no active leases currently in the Dillon Field Office. Seventeen of Idaho's 25 geothermal leases are located in GRSG habitat, and all have existing stipulations protecting GRSG habitat during critical seasons (as well as having stipulations to protect crucial habitat for other species):

- Each of the seven leases at Raft River have a stipulation restricting exploration and development work in GRSG strutting/brood-rearing habitat from April 1 through June 15.

Figure 3-8
Oil and Gas Potential of Federal Oil and Gas Mineral Estate



Medium Potential for Oil and Gas Resources

Federal Oil and Gas Mineral Estate

Idaho and SW Montana Sub-regional boundary

No High Potential for Oil and Gas Resources
in the Idaho-SW Montana Sub-region

- Each of the four leases at Crane Creek contain a stipulation requiring that a survey be conducted for the presence of active GRSG leks in key habitat, prior to authorization of surface disturbing activities. If active leks are present (defined as being used at least once in a five-year period), two stipulations will apply. One is a timing limitation precluding exploration or drilling activities between March 15 and May 1 from 6 pm to 9 am within two miles of an active lek. The other stipulation precludes construction of wells, geothermal plants, power lines, pipelines, or other such permanent structures that would fragment or degrade nesting habitat within two miles of an active lek.
- Both of the geothermal leases located west of Weiser have the following stipulations:
    - Controlled surface and timing limitation use near GRSG leks and/or nesting/early brood rearing habitat: Potentially disruptive major construction and maintenance activities (e.g., infrastructure/energy development and similar projects), shall be avoided within 4 miles (6.4 kilometers) of occupied or undetermined status GRSG leks from February 15 to June 30 to reduce disturbance to lekking birds, or April 15 to June 30 for nesting GRSG (and/or hens with early broods). Major construction and maintenance activity will be avoided in GRSG winter range from December 1 to February 15. Specific dates may be earlier or later, depending on local breeding chronology. The spatial buffer may be increased or decreased based on site-specific factors analyzed and documented in an environmental assessment or EIS and authorized via the appropriate decision document. Exceptions may be granted for activities involving only infrequent, short term disturbance (less than 1 hour within a 24-hour period in a specific area); or if there are intervening topographic features or line-of-site screening that buffer the lek or nesting habitat from disturbance; or if recent (within the past 5 years) site-specific studies or local expertise suggest that leks or nesting hens are unlikely to be present within the 4-mile zone surrounding the project activity.
    - For smaller-scale human disturbances, (e.g., water pipeline construction, routine fence maintenance, and facility maintenance), a 0.62 mile (1 kilometer) lek disturbance buffer will apply between approximately March 15 and May 1 in lower elevations and March 25 through May 15 in higher elevations, from 6 p.m. to 9 a.m. in a specific area to minimize disturbance to lekking GRSG.

Geothermal exploration and development activity on federal lands in Idaho has been sporadic, due largely to economic factors. Idaho now has one 10 megawatt geothermal power plant currently operating, as of 2007. It is located on private land at Raft River, south of Burley, Idaho. Nine federal leases surround the plant and extend up the southeast flank of Jim Sage Mountain. The BLM approved five geothermal drilling permits on a lease at Raft River in 2010; however no drilling has occurred to date. The drilling permits have several

Conditions of Approval attached to protect wildlife. These include fencing reserve pits and safeguarding migratory birds from hazards associated with pits and treatment facilities, including but not limited to pit screening or netting, and placing protective cones over vent stacks. In addition, drilling is prohibited during the GRSG strutting and brood-rearing season (lease stipulation).

Figure 3-9 depicts the geothermal potential of the federal mineral estate in the planning area.

Mineral Materials

Mineral materials include sand, gravel, most building and landscaping stone, pumice, and other common variety materials that are not subject to mineral leasing or location under the mining laws. The Materials Act of 1947, as amended (61 Stat. 681) authorizes disposal of mineral materials on BLM-administered lands through a sales system, and provides for free use of material by government agencies, municipalities or nonprofit organizations, if the material is not to be used for commercial purposes. Permitting the removal or extraction (i.e., disposal) of mineral materials on BLM-administered lands is a discretionary activity. The BLM will not authorize the disposal of mineral materials if it is determined that the aggregate damage to BLM-administered lands and resources would exceed the public benefits that the BLM expects from the proposed disposal; nor will the BLM dispose of mineral materials from areas identified in land use plans as not appropriate for mineral materials disposal (43 CFR 3601.11 and 3601.12). Disposal of mineral materials on National Forest System lands is covered by 36 CFR 228D.

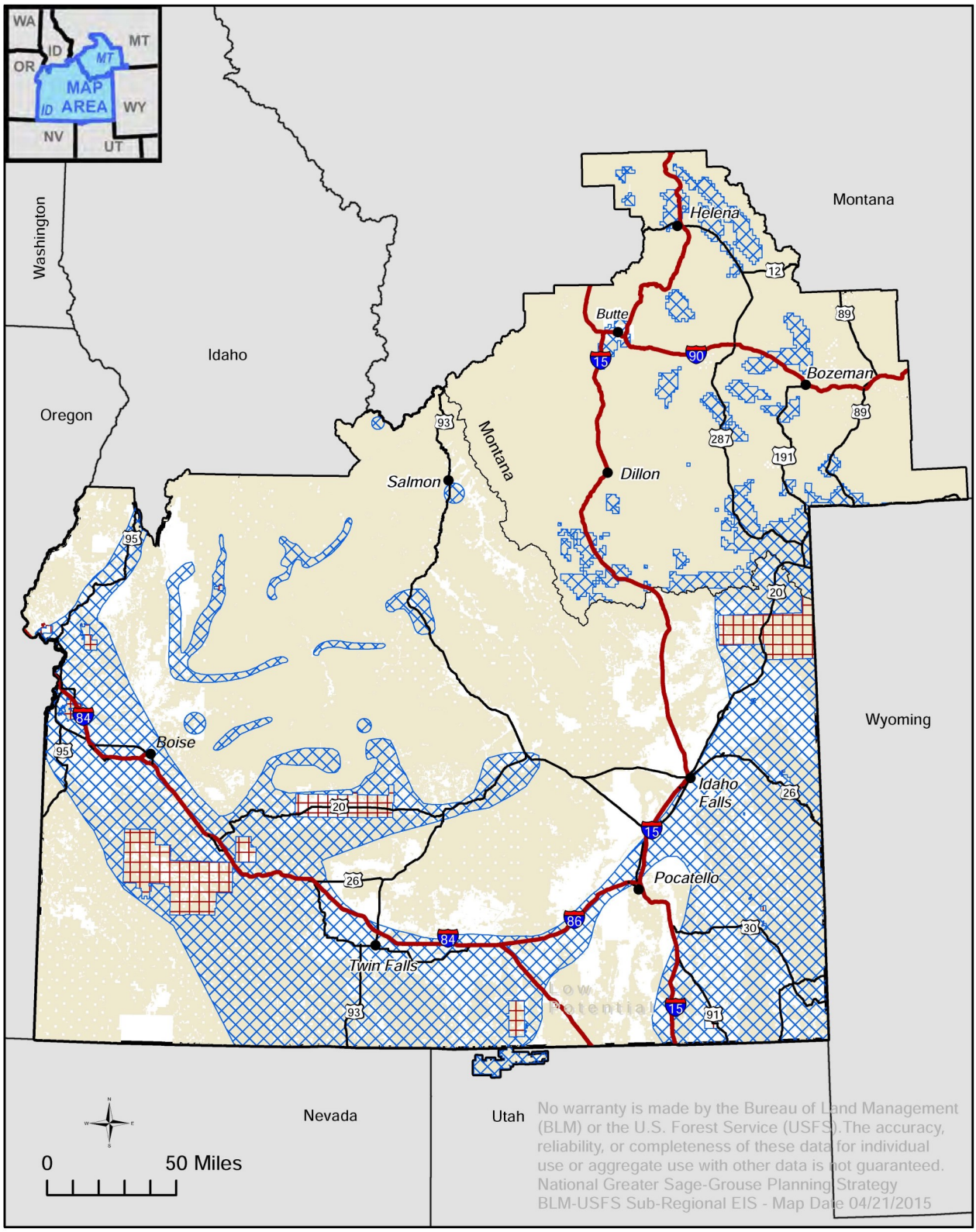
Most BLM-administered land in Idaho is available for consideration of mineral material disposal; however, existing guidance in many of the LUPs in the planning area encourages the use of existing disposal sites until the material is depleted. **Table 3-44** shows the numbers of mineral material disposal cases within the planning area. **Figure 3-10** shows the geographic distribution of mineral materials in the planning area.

Table 3-44
Existing Mineral Materials Cases

Field Office	# Community Pits	# Free Use Permits	# Negotiated Sales	Total # sites in GRSG Habitat
Owyhee	9	13	2	All
Bruneau	6	10	2	5
Four Rivers	6	27	4	2
Burley	12	37	2	7
Shoshone	17	18	0	9
Jarbidge	10	27	0	4
Pocatello	5	23	0	2
Challis	21	54	5	20
Salmon	6	11	3	All
Upper Snake	17	32	8	17
Dillon, Montana	4	0	0	2
Total	**33**	**252**	**26**	**120**

Source: BLM GIS 2015
[1]Data as of April 13, 2015

Figure 3-9
Geothermal Potential of Federal Geothermal Mineral Estate



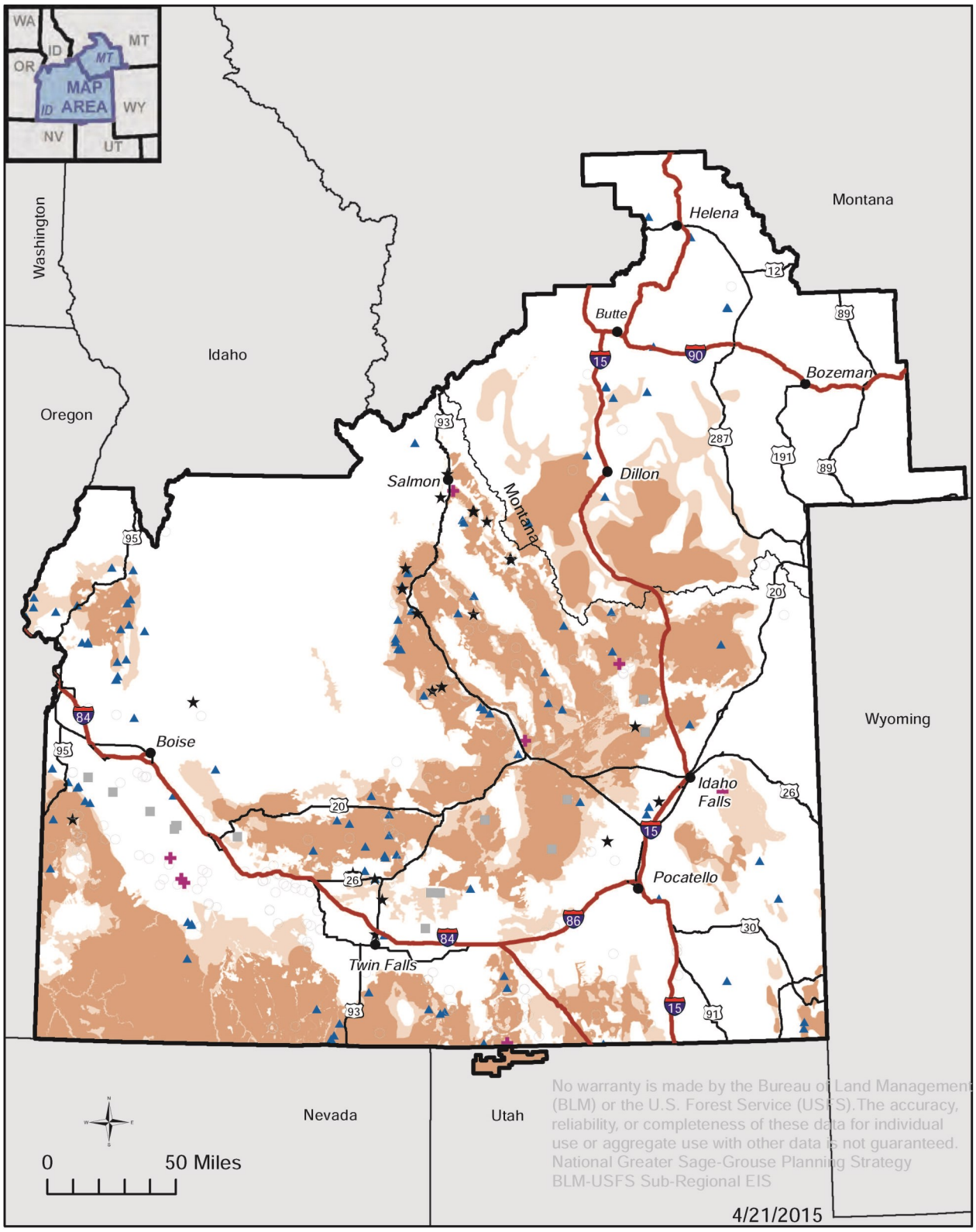
High Potential for Geothermal Resources

Moderate Potential for Geothermal Resources

Federal Geothermal Mineral Estate

Idaho and SW Montana Sub-regional boundary

Figure 3-10
Mineral Material Commodity Types in the Planning Area



- Stone
- Sand and Gravel
- Clay and Limestone
- Soil
- Pumice and Volcanic
- Preliminary Priority Management Atea
- Preliminary General Management Area
- Idaho and SW Montana Sub-regional boundary

Community pits are sites established by the BLM and Forest Service for the public to acquire mineral materials by purchasing a short-term permit over-the-counter at the field office. Free Use Permits are usually sand and gravel pits, and are requested by county highway districts and nonprofit organizations for road construction and maintenance of county roads. A negotiated sale is an exclusive site proposed by a single party, often commercial, as the party must now pay for the BLM to process the permit.

The number of sales out of a community pit varies by site, from less than one to more than 50 per year. Many of the most popular community pits are for landscaping rock and building stone that is simply picked up by hand from the ground surface or from a talus slope. Most of these sales are for less than one ton. Most Free Use Permit sites are used sporadically and may be scattered throughout a field office or ranger district office, so that when the county needs material it has a nearby source, thereby reducing haul costs. A pit may be inactive for several years before it is needed for a road project in the area.

A gravel pit is initially developed by scraping off the vegetation and topsoil, which is then stockpiled for future reclamation. Most gravel pits are 5 to 15 acres in size. No infrastructure other than an access road is needed for mineral materials disposals. Most mineral material removal activity occurs during the summer months and during daylight hours.

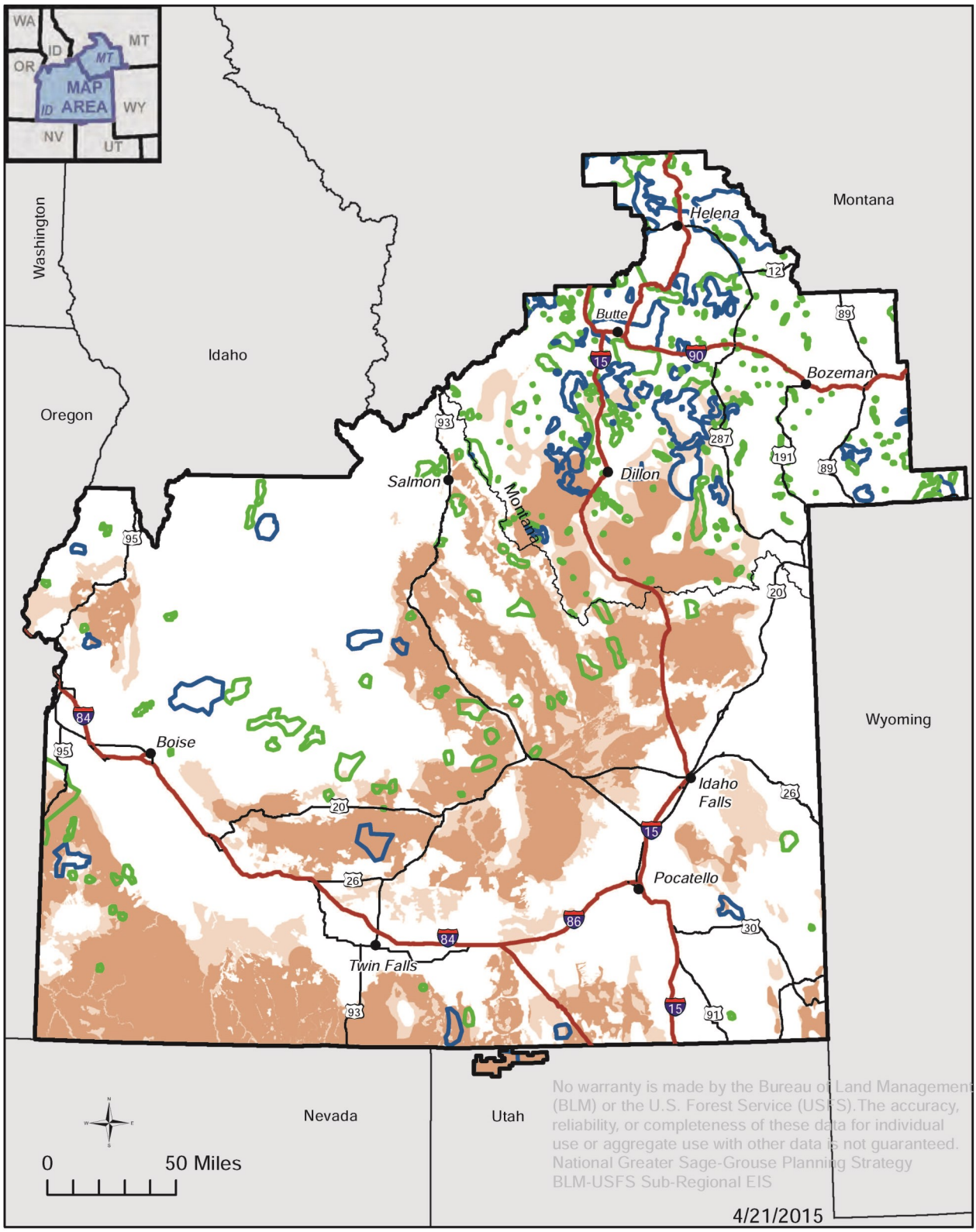
Very few mineral material sites have mitigation measures protecting GRSG habitat. One exception is the St. Anthony Sand Dune Community Pit, which has a provision stating "Proposals to remove sand between March 1st and June 15th will be evaluated to determine if breeding birds are utilizing the area."

Locatable Minerals

Under the General Mining Act of 1872 (17 Stat. 91), any US citizen, or person with the intent to become a citizen, may stake a mining claim for locatable minerals on federal lands (unless administratively withdrawn from mineral entry). This gives the claimant a possessory right to develop the locatable mineral resource. Lands withdrawn from mineral entry are Wilderness, ACECs, and other specially designated areas. The staking of a mining claim is a nondiscretionary activity: As long as the lands are open to locatable mineral entry, and as long as the claimant maintains the mining claim on an annual basis in accordance with regulations at 43 CFR 3830 through 3838, the mining claim is considered active. If the claimant fails to properly locate or maintain the claim on an annual basis, the claim is forfeited. The BLM's role is limited to recording and adjudicating the location notices and maintenance filings, and preventing undue or unnecessary degradation of the lands under FLPMA. **Figure 3-11** shows areas where locatable minerals are considered to be more likely to be found and **Figure 3-12** shows existing Surface Management Plans or Notices in the planning area.

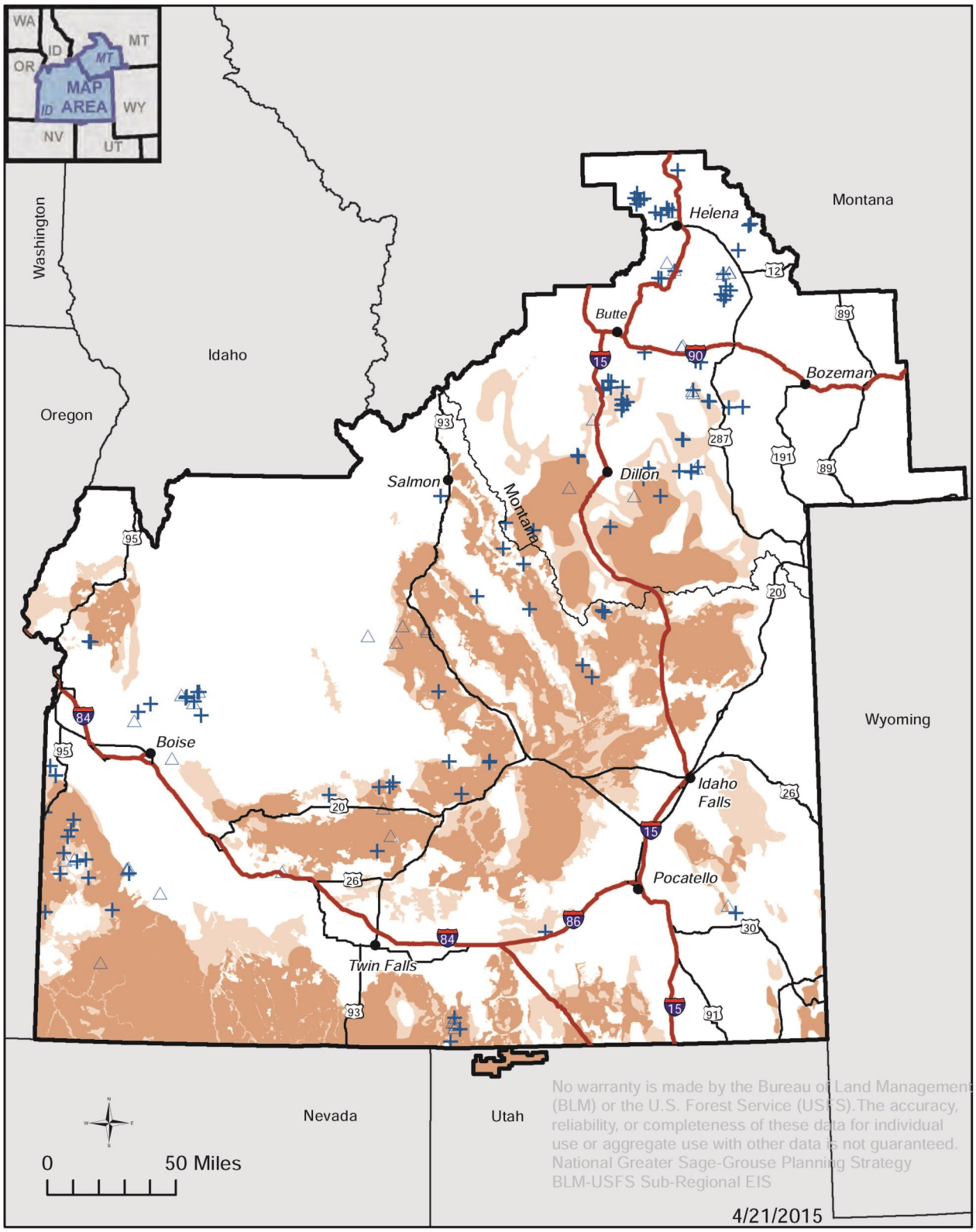
If a claimant wants to perform mining operations other than casual use on BLM-administered lands, a Notice or Plan, filed under 43 CFR 3809, must be filed with the BLM (or 43 CFR 3802, if the claim is located on lands under wilderness review). The Forest Service has similar locatable minerals management regulations at 36 CFR 228A. For

Figure 3-11
Locatable Mineral Potential in the Planning Area



High Locatable Mineral Potential
Moderate Locatable Mineral Potential
Preliminary Priority Management Atea
Preliminary General Management Area
Idaho and SW Montana
Sub-regional boundary

Figure 3-12
Existing Surface Management Plans or Notices in the Planning Area



△ SURFACE MGT- PLAN
\+ SURFACE MGT- NOTICE
Preliminary Priority Management Atea
Preliminary General Management Area
Analysis Boundary

operations on National Forest System lands, a Notice of Intent must be filed. In addition, a Plan of Operations is required if the proposed activities will cause "significant disturbance of surface resources" (36 CFR 228.4[a][4]). Where there is a reference to notices or plans, it means both notices or plans on BLM-administered lands and Notices of Intent or Plans of Operation on National Forest System lands. Later in this document, the terms Notice/Notice of Intent or Plan/Plan of Operation are roughly equivalent for the purpose of this analysis. The purpose of these regulations is to prevent unnecessary or undue degradation of surface resources by operations authorized by the mining laws. The subparts establish procedures and standards to ensure that operators and mining claimants meet their obligation to prevent undue or unnecessary degradation and to reclaim disturbed areas.

The existing land use plans identify areas that are closed to mineral entry but are silent on mitigation measures to be taken in GRSG habitat. **Table 3-45** shows the numbers of 3809 Plans and Notices that are authorized or pending in the planning area.

Table 3-45
Authorized or Pending 3809 Plans and Notices

District	3809 Plans of Operations		3809 Notices		GRSG Habitat?
	Authorized	Pending	Authorized	Pending	
Boise District	15	0	10	3	1 plan in PH
Twin Falls	7	5	4	3	5 plans in PH
Idaho Falls	8	1	2	2	4 plans in PH
Dillon Field Office	0	0	0	0	No plans in GRSG habitat
Total	**30**	**6**	**16**	**8**	**10 plans in GRSG habitat**

Source: BLM GIS 2015

The Boise District currently has three 3809 Plans in GRSG habitat (one plan in PPH) for mostly small operations for zeolite and bentonite along the Owyhee Front. Development has occurred or is underway in the Castle Creek drainage south of Oreana (zeolite, bentonite); close to the Oregon border near US Highway 95 (both for zeolite); and on the Owyhee Plateau near the Upper Deep Creek area.

The Twin Falls District currently has five 3809 Plans in GRSG habitat. Development has included building stone operations south of Oakley, and the Eskridge pumice pit north of Magic Reservoir. At least three companies operate quarries on Middle Mountain south of Oakley, extracting a variety of micaceous quartzite called Oakley Stone. Oakley Stone is highly prized as a building and flooring material, as it has very high tensile strength and can be split into large, thin sheets. Building stone quarry operations have been active on Middle Mountain for over sixty years in the vicinity of active GRSG leks.

The operations are confined to discrete quarries located at mid-elevation on the west slope of Middle Mountain. The quarries expand very slowly over the years, and no infrastructure such as power lines or pipelines are required. Very little mechanical equipment is used, as the

stone is split to the desired thickness using only small hand tools such as pry bars, hammers and chisels, and is then placed on pallets by hand. However, operators also use excavators, dump trucks, front end loaders, and other equipment in their daily operations, and blasting is used occasionally. Most of the quarry workers are employed seasonally and are housed on-site, thereby reducing traffic and dust. The quarries are strung out north-south along Middle Mountain such that each quarry has a separate road to access the Goose Creek road, an improved gravel road that leads to Oakley.

During the field season (roughly May to November), semi-truck traffic, hauling pallets of Oakley Stone, can be fairly intense on the Goose Creek road, making 10 to 20 round trips per day. One of the operations has a mill site adjacent to the Goose Creek Road where stone is split and palletized for shipping. All of the operations shut down in the winter, so in the fall pallets of stone are brought off the mountain and stockpiled in Oakley. Several of the quarries have been patented and are therefore privately owned. No stipulations pertaining to GRSG are currently applied to the Plans of Operations for any of these quarries. Altogether, the quarries employ approximately 100 people year-round and approximately 600 seasonal workers (Southern Idaho Living 2012).

The Eskridge pumice pit is located north of Magic Reservoir, on both sides of US Highway 20. The mining claimants have mined pumice for landscaping material since the 1940s. Current operations are located on the south side of the highway, where disturbance consists of 15 acres of quarry and staging area. A few years ago, the claimant moved the operation from the north side of the highway, and reclaimed (sloped and seeded) 34 acres of previous disturbance. The operation is active throughout the year, but activities rotate approximately every 3 years, depending on demand for the material. In the first year of the cycle, bulldozers are used to rip the material from the quarry face. In the second year, the material is classified based on size and color, and stockpiled. In the third year, the stockpiles are loaded into belly dump trucks and transported to Gooding, where it is loaded onto train cars and shipped to Rexburg, where it is sold.

The Idaho Falls District currently has six 3809 Plans in GRSG habitat, all in the Challis Field Office. Development has occurred or is underway for building stone (including Three Rivers Stone) and zeolite. The Three Rivers Stone quarry is a large building stone quarry operation situated along the south side of US Highway 93, east of the confluence of the East Fork and the Main Salmon rivers. The quarry is operated in a similar manner as those on Middle Mountain: The stone (a variegated argillaceous quartzite) is split into thin sheets using hand tools and is palletized at the quarry. The pallets are hauled to the mill site adjacent to the highway, from which they are shipped. At peak production in 2007, there were 99 people employed by the quarry's operator, L&W Stone. In January, 2013, however, the company announced that it would be shutting down production at the quarry while it undergoes bankruptcy proceedings.

In the Dillon Field Office, there are currently no 3809 Plans located in GRSG habitat.

On the Raft River division of the Sawtooth National Forest in Utah, there are several quarries of building stone. They are located on the southern slopes of the Raft River Range, in GRSG habitat.

Nonenergy Solid Leasable Minerals

As with fluid minerals, the right to develop nonenergy solid leasable mineral resources, such as phosphate, on federal lands may be acquired only through a mineral lease, offered and administered by the BLM in accordance with the Mineral Leasing Act of 1920, as amended and supplemented (30 USC, Section 181 et seq.). Lands that are known to have a valuable phosphate resource have been designated by the USGS as known phosphate leasing areas (KPLAs) and are leased through a competitive leasing process. Lands outside a KPLA may also be leased, but the existence of a valuable phosphate resource must be proven first, through prospecting. Idaho has 8 KPLAs, totaling 80,168 acres. Idaho BLM has 48 leases in KPLAs, totaling 31,670 acres. Therefore there are 48,498 acres of unleased KPLA in Idaho; there are 12,904 acres leased outside of KPLAs (38 leases).

The Pocatello Field Office in southeast Idaho has a large nonenergy solid leasable mineral program, as the phosphate resource in that field office is significant. The Middle Permian Phosphoria Formation is one of the largest resources of phosphate rock in the world; the richest phosphorite accumulations are found in southern Idaho, northern Utah, and western Wyoming. Compression during the Cretaceous Period resulted in major folding and thrust faulting of Paleozoic and Mesozoic sediments throughout the Rocky Mountain region. These sediments were folded on a regional scale into north-south trending anticlines and synclines, then thrust eastward 18 to 20 miles, exposing the phosphate resources of the Phosphoria Formation along steeply dipping fold limbs.

The thickest, richest accumulations of phosphate occur in southeast Idaho, centered around the Soda Springs area. The BLM manages these resources on behalf of the federal government. The goal in the Pocatello RMP is to manage the federal mineral estate while minimizing adverse impacts on resource values. The 2012 Pocatello RMP does not have any stipulations or minerals guidance for nonenergy leasable minerals that specifically address GRSG.

Phosphate has been mined commercially in southeast Idaho for over one hundred years, mostly east of Soda Springs, an area that has relatively little GRSG habitat. Of the 86 federal phosphate leases that the BLM administers in Idaho, only 10 are in GRSG habitat. Nine of these leases are north and west of Blackfoot Reservoir and Soda Springs, in or near PGH. None of those leases have been mined, nor is any mining planned on the leases in the next 5 to 10 years. Most of the leased acreage around Blackfoot Reservoir is split-estate (private or state-owned surface with federal minerals). The Trail Creek and Caldwell Canyon leases in PGH east of Conda Mountain are undergoing drilling. One additional lease is in PPH, northwest of Bear Lake near Paris, Idaho. Exploration drilling was conducted in 2012 on the lease and on the private lands and unleased split-estate lands surrounding the small lease. Timing restrictions for GRSG were applied to the approval for the drilling. If developed, this property would likely be developed as an underground mine, due to geologic factors.

In total, approximately half of the federal leases in Idaho have been mined, are being mined, or are proposed to be mined in the next 5 to 10 years. The remaining unmined leases have been held for many years and are subject to valid existing rights. The Dillon Field Office has one nonenergy solid leasable lease, for phosphate. It is not in GRSG habitat and is undeveloped.

Figure 3-13 shows gas potential within the planning area.

Coal

No economically viable coal resources have ever been discovered in Idaho, and most plans are silent on the subject. The Dillon RMP states its goal is to make coal resources available on a site-by-site basis. A plan amendment would be required to lease coal, along with the appropriate level of NEPA analysis. No specific mitigation measures for GRSG are identified in any of the land use plans. Coal mining is regulated in accordance with the Surface Mining Control and Reclamation Act of 1977 (30 USC 1201 et seq.). BLM's coal mining regulations are found at 43 CFR 3400. According to 43 CFR 3420.1-4 (e)(1), only those areas that have development potential may be identified as acceptable for further consideration for leasing. As there is no development potential in the planning area, the lands are determined to be unsuitable for leasing. For this reason, the impacts on GRSG from the development of a coal resource will not be discussed further in this document.

3.12.2 Trends

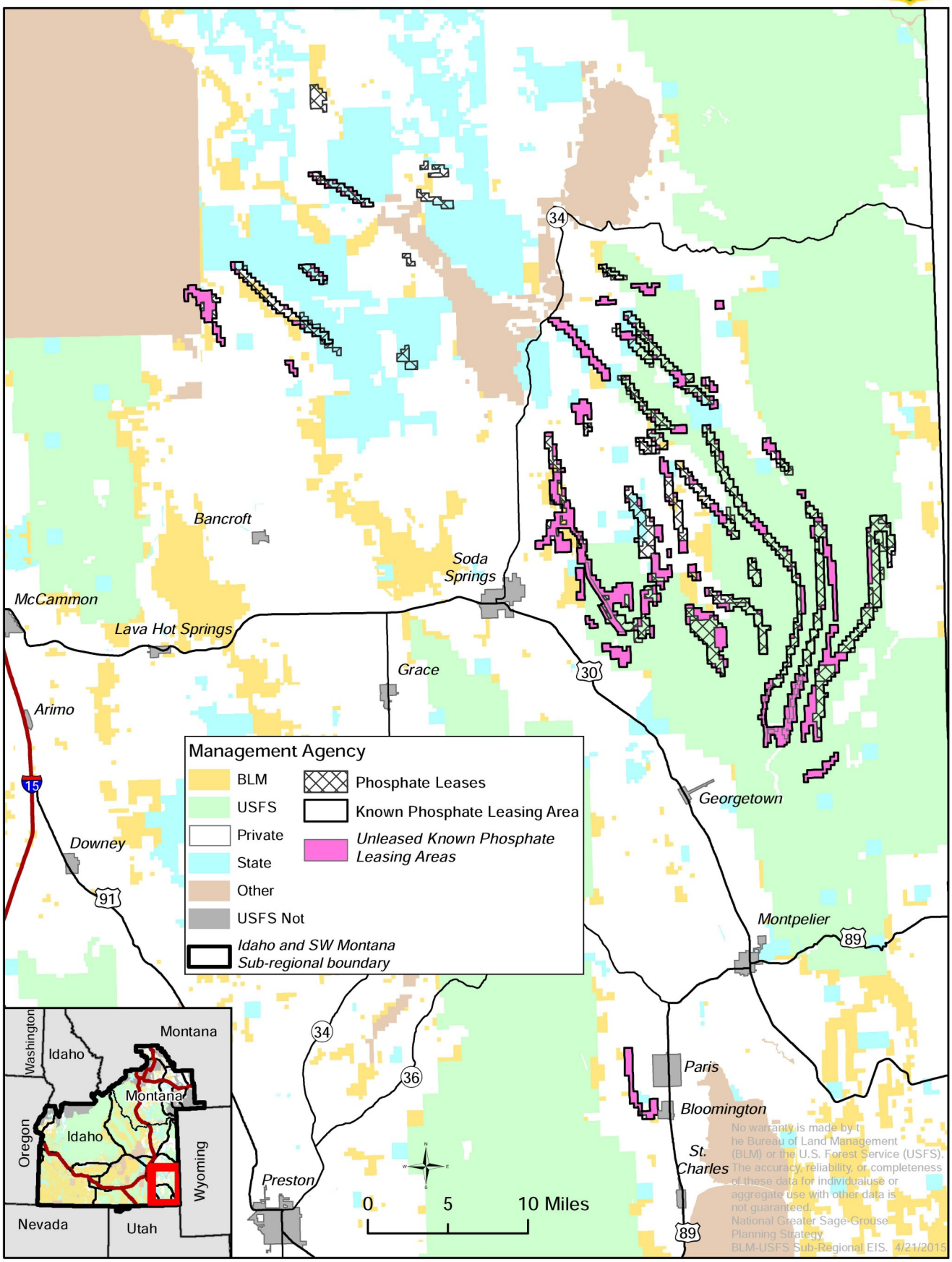
Oil and Gas

Interest in oil and gas leasing in Idaho has been sporadic over time, and it is expected to remain so. Many leases were held in the 1970s and 1980s throughout much of Idaho, when leasing was done under a noncompetitive system. After passage of the Federal Oil and Gas Royalty Management Act in the early 1980s, leasing became a competitive process, and BLM's standards for leasing became more rigorous. Lease nominations dropped dramatically in Idaho and for many years, BLM's oil and gas program in Idaho was nonexistent. With passage of the Energy Policy Act in 2005, Idaho BLM experienced an uptick in leasing interest, with over 400,000 acres of federal land nominated since that time[2].

Interest in leasing is currently high in the Payette area, due to the recent wildcat discovery of natural gas and planned development in that area (181,000 acres nominated for leasing, overlapping). Much of the land nominated for leasing is split estate, and only the northernmost nominated parcels are located in GRSG habitat. The Bear Lake area has been nominated for leasing by several parties, most recently in 2012 (59,700 acres, overlapping acreage). Interest in leasing the Bear Lake Plateau was at its highest in the early 1980s, when a discovery of gas was made 10 miles south of the Idaho/Utah state line, and in adjoining areas in Wyoming. Several wells were drilled in Idaho at that time, but were reported to be dry. Other areas that have been nominated for leasing recently include approximately 90,000

[2] Some of this acreage overlaps, due to multiple nominations for the same land

Figure 3-13
Unleased Known Phosphate Leasing Areas



acres in Twin Falls County, south of Rogerson, and approximately 60,000 acres in Clark County, on the Idaho-Montana border in the Targhee National Forest. All of these nominated lands have GRSG habitat.

Several geophysical surveys have been conducted recently in the Payette area (two-dimensional and three-dimensional seismic surveys). It is likely that additional geophysical surveys will be conducted in the planning area. Seismic reflection surveys are the most commonly used geophysical tool. Very little surface disturbance is associated with a seismic survey, as no excavating or drilling is involved. All that is required is a seismic energy source and an array of receptors. The most common type of survey seen in Idaho involves mechanically vibrating or "thumping" the ground using truck-mounted equipment. This creates seismic waves that are recorded by a series of receptors placed on the ground surface along a three- to five-mile line. This process requires a crew of about 10 to 15 people and 5 to 7 vehicles. No reclamation is usually required.

Despite the occasional interest in leasing in Idaho, no drilling permits have ever been filed on BLM-administered lands in Idaho. This trend is expected to continue, however, for the sake of this analysis, a description of the drilling process is included in this report, since the issuance of a lease commits those lands to the possibility of exploration and development of the oil and gas resource. Exploration drill holes for oil and gas range in depth from a few thousand feet to many thousands of feet, but in much of Idaho would probably be 7,000 to 11,000 feet deep. These wells are 30 inches in diameter or larger at the surface, then narrow (telescope) to 12 inches at the bottom of the well. In order to drill these deep, large-diameter holes, a large drilling rig would be utilized. The top of the drill rig derrick could be as much as 155 feet above the ground surface, and the rig floor could be at least 25 feet above the ground surface. These rigs are typically equipped with diesel engines, fuel and drilling mud storage tanks, mud pumps, and other ancillary equipment. Blow-out prevention equipment would be utilized while drilling to prevent uncontrolled flow at the surface if a pressurized hydrocarbon deposit is encountered.

Temporary roads would likely be needed to transport and maintain the drill rig and other heavy equipment. Either existing roads would be improved or new roads would be constructed to accommodate the traffic. Typically, roads are constructed with a 20-foot wide graveled running surface with adjacent ditches and berms, for a total disturbance width of about 40 feet. It may be necessary to haul in gravel to obtain a good road base, as well as a base for the well pad. Based on the road density in the planning area, it is assumed that access to the drill pads may require up to one mile of road construction or improvement. Surface disturbance from construction of one mile of road equals about five acres.

Getting the rig and ancillary equipment to the site may require 15 to 20 trips by full-sized tractor-trailers, with a similar amount for de-mobilizing the rig. There would be 10 to 40 daily trips for commuting and hauling in equipment. Drilling operations would likely occur 24 hours a day and 7 days a week. It takes approximately one month to drill one well. A drilling operation generally has from 10 to 15 people on-site at all times, with more people coming and going periodically with equipment and supplies.

During this exploratory or wildcat phase of drilling, it is likely that a drill pad, to accommodate the rig and equipment, would be required at each well location. A drill pad is usually 2.5 acres in size (300 feet by 350 feet), but it can vary considerably due to the depth of the target zone, surface topography, and equipment needs for various drilling methods. In order to obtain a level pad, cut and fill of the site may be required. Topsoil would first be removed from the well pad site and stored on site for reclamation. In addition to the drill rig, the well pad may house a reserve pit for storage or disposal of water, drill mud, and cuttings; several mud pits and pumps, a tool shed, drill pipe rack, a fuel tank, a water tank, a generator and several compressors, equipment storage, and several trailers for temporary lab and office quarters. Depending on the contents of the reserve pit and environmental sensitivity of the site, it may be lined or unlined.

Well drilling also requires water. As much water as possible is recycled on site, yet about 5,000 to 15,000 gallons of water may be needed each day depending on well conditions. Initially, water would need to be provided, either by wells or trucked in, to meet demands. Many oil or gas wells encounter water at depth when drilling for oil and/or gas and can be utilized when production is ongoing. Any water rights required would likely need to be filed in the name of the BLM.

Various tests are then run down the hole and data is collected to determine whether the well is capable of production. At the conclusion of well testing, if paying quantities of oil and gas are not discovered, the operator is required to plug the well according to federal and state standards. Cement plugs are placed above and below water-bearing units with drilling mud placed in the space between plugs. When abandonment is complete, the site is reclaimed, which includes pad and road recontouring, topsoil replacement, and seeding with approved mixtures. Erosion control measures would be incorporated into the reclamation design as needed.

The drilling site could be active for approximately 1 year, from the start of drill pad and access road construction; through drilling and well testing; to completion of production facilities or plugging the hole and reclamation of the surface, which usually involves removing all infrastructure, disposal of any waste generated, reshaping pads and roads, and re-seeding. The total surface disturbance expected from the drilling of a single exploratory well and the construction of one mile of access road is approximately eight acres.

If a producible quantity of oil or gas is discovered, additional development wells would be drilled to confirm the discovery, establish the limits of the field, and drain the field. Depending on the field characteristics, well spacing may be from 40 to several hundred acres per well.

The speed at which a field is developed is dependent on the anticipated productivity. It may take from 1 to 3 years to fully develop an oil or gas field. Large fields with several operators may be unitized to reduce surface impacts. In addition, directional drilling may allow for drilling more than one well per pad.

During field development, the road system may be greatly expanded. Temporary roads are usually improved to accommodate more traffic and increased duration of use. Improvements may include crowning, capping, and implementing additional erosion controls. New roads would also be constructed. Depending on well location and topography, a main access road is built with smaller secondary roads running to each pad. In addition to roads, other facilities may also be installed including power lines, tank farms, pipelines, oil/water separators, and injection wells.

Where oil and gas flow to the surface naturally, control valves and collection pipes are attached to the well head. Otherwise pumps are installed. Oil is typically produced along with water and gas. Separation facilities are constructed on site to remove water, carbon dioxide, and hydrogen sulfide. The oil and natural gas are then separated. Water, usually saline, is disposed of either through surface discharge, evaporation ponds or re-injection into the producing formation.

If gas is present in economic quantities and a pipeline is located within close proximity, a network of pipelines would likely be constructed to collect and transport the gas. If not, gas would likely be re-injected into the reservoir. Oil would be collected in a similar manner and stored in tanks in a central location. Well operators would likely have service operations (e.g., cementing, logging, bits, and testing) provided by established oil field service companies in Wyoming or Utah.

The producing life span of an oil or gas field varies depending on field characteristics. A field may produce for a few years to many decades. Commodity price, recovery technique, and the political environment also affect the life of a field. Well abandonment may begin as soon as it is depleted, or it may be rested for a period of time and put back into production.

Geothermal

Interest in geothermal is sporadic in Idaho, depending on factors such as the economy, political climate, government incentive programs, such as the renewable energy tax credit, and technological advances. It is anticipated that drilling will occur on federal leases at Raft River over the next 10 to 15 years, and that an additional power plant would be constructed, likely on private lands, but with wells on federal land.

Mineral Materials

Demand for mineral materials is expected to remain fairly steady, although the collapse of the housing industry in 2008 definitely resulted in fewer sales throughout the planning area. The implementation of full cost recovery for individual sales has caused a decline in that case type.

Locatables

While Idaho's mining claim numbers fluctuate with the price of gold, the number of plans and notices remains fairly steady. Production of building stone in the Middle Mountain area remains steady, however it was recently reported that L&W Stone's Three River Stone quarry near Clayton has been shut down due to bankruptcy. Several Plans of Operations are in the approval process on Middle Mountain.

Nonenergy Solid Leasable Minerals

Demand for phosphate remains high, and the companies that mine in southeast Idaho continue to develop new mines as old ones are reclaimed and remediated. There is no indication that the leases west of Soda Springs in GRSG habitat will be developed in the foreseeable future. It is anticipated that, over the next 10 years, new mines will be developed on phosphate leases at Dairy Syncline, Husky/Dry Ridge, Caldwell Canyon, and Trail Creek, as current mines are depleted of ore and are reclaimed. Only the Caldwell Canyon and Trail Creek leases are located in GRSG habitat. Both of these leases are located primarily on split estate lands: at Caldwell Canyon, the majority of the surface estate is privately owned (1,200 acres), with only 160 acres on BLM-administered lands; the Trail Creek lease is composed of a mix of state and private surface estate. In the spring of 2013 it was announced that a company plans to open an underground operation near Paris, Idaho, on patented lands in GRSG habitat. The announcement stated that initial development would not involve federal minerals; however, exploration drilling occurred on federal minerals in 2012.

The BLM has not offered a competitive phosphate lease since 2000 and does not have any pending requests for competitive leasing. However, as the remaining leases are developed, demand for leasing, particularly in the unleased portions of KPLAs, is expected to increase.

Coal

It is highly unlikely that any coal exploration or development will occur in the planning area.

3.13 Special Designations

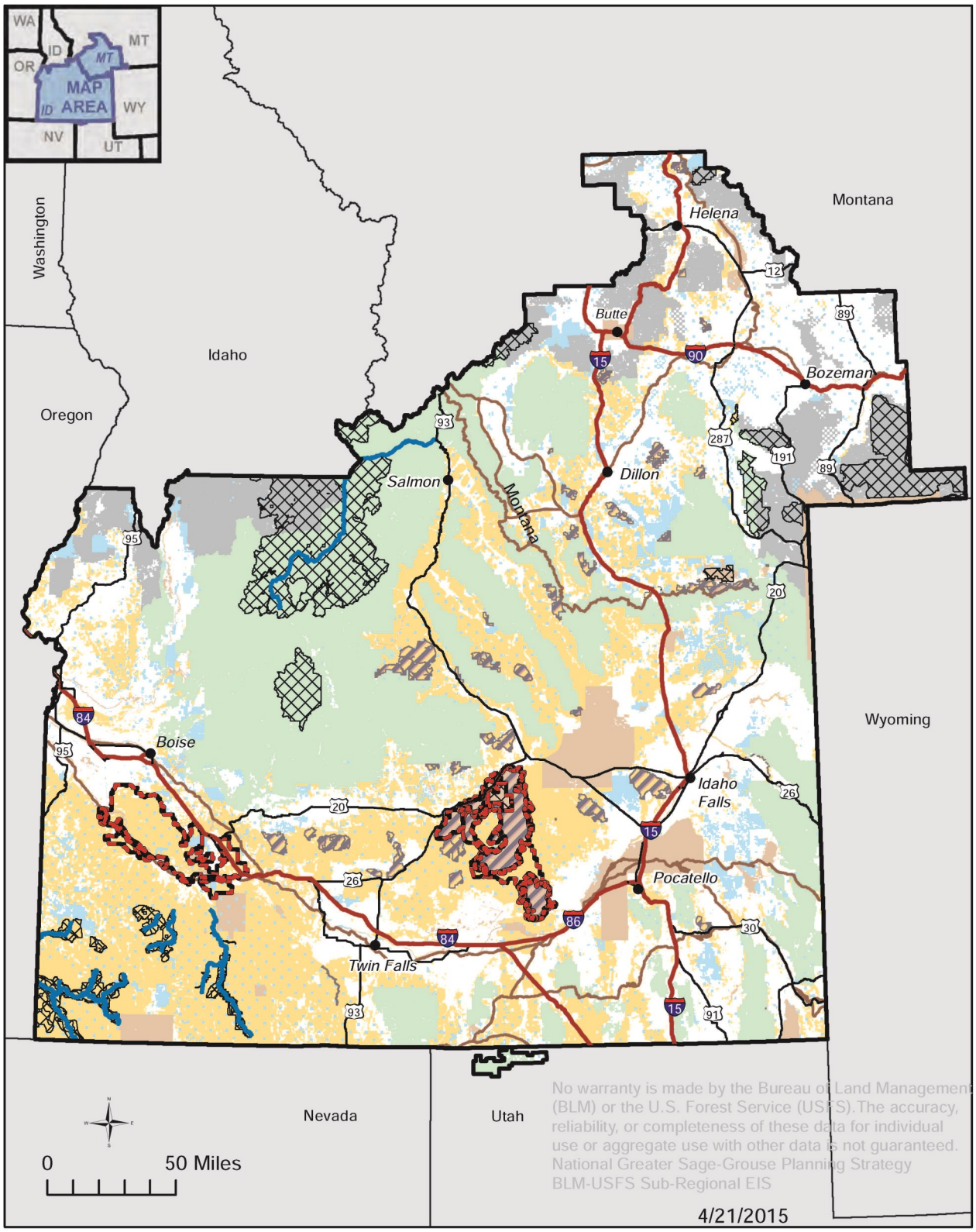
Within the planning area are a variety of lands set aside through congressional or administrative action to protect certain values, such as Wilderness, Wilderness Study Areas, National Scenic and Historic Trails, and Wild and Scenic Rivers (**Figure 3-14**).

3.13.1 Areas of Critical Environmental Concern (ACEC)

An ACEC is defined in FLPMA, Section 103(a), as an area on BLM-administered lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and ensure safety from natural hazards. BLM regulations for implementing the ACEC provisions of FLPMA are found in 43 CFR 1610.7-2(b).

ACECs differ from some other special management designations in that designation by itself does not automatically prohibit or restrict other uses in the area. The special management attention is designed specifically for the relevant and important values and, therefore, varies from area to area. Restrictions that arise from an ACEC designation are determined at the time the designation is made and are designed to protect the values or serve the purposes for which the designation was made. The BLM identifies goals, standards, and objectives for each proposed ACEC as well as general management practices and uses, including necessary constraints and mitigation measures. In addition, ACECs are protected by the provisions of 43 CFR 3809.1-4(b)(3), which requires an approved plan of operations for activities resulting in more than 5 acres of disturbance under the mining laws.

Figure 3-14
Special Designations in the Planning Area



- National Historic Trails
- Wild Scenic River
- National Monument & National Conservation Area
- Wilderness Study Areas
- Wilderness
- Analysis Boundary
- Bureau of Land Management
- United States Forest Service
- Private
- State
- Other
- USFS Not Analyzed

Research natural areas are areas where natural processes are allowed to predominate, and that are preserved for the primary purposes of research and education. Under current BLM policy, research natural areas must meet the relevance and importance criteria of ACECs and are, therefore, designated as ACECs. Under current guidelines, ACEC procedures also are used to designate outstanding natural areas.

There are portions of fifty two Idaho and 7 Montana ACECs in the planning area that overlap occupied GRSG habitat (see **Figure 3-15**). Refer to **Table 3-46** which summarizes the acres of ACECs within GRSG habitat and the identified relevant and important values for each. None of the existing ACECs were designated solely for the purpose of protecting GRSG habitat.

As part of this effort, the BLM called for and received nominations for ACECs to protect GRSG. A BLM interdisciplinary team reviewed nominations to determine which areas meet the relevance and importance criteria, as defined by 43 CFR 1610.7-2(a)(1), and 43 CFR 1610.7-2(a)(2), and guidance in BLM Manual 1613, Areas of Critical Environmental Concern. Details of the process and information on those areas found to meet the relevance and importance criteria can be found in **Appendix S**, BLM ACEC Evaluation and Forest Service Zoological Areas.

3.13.2 Wilderness

BLM

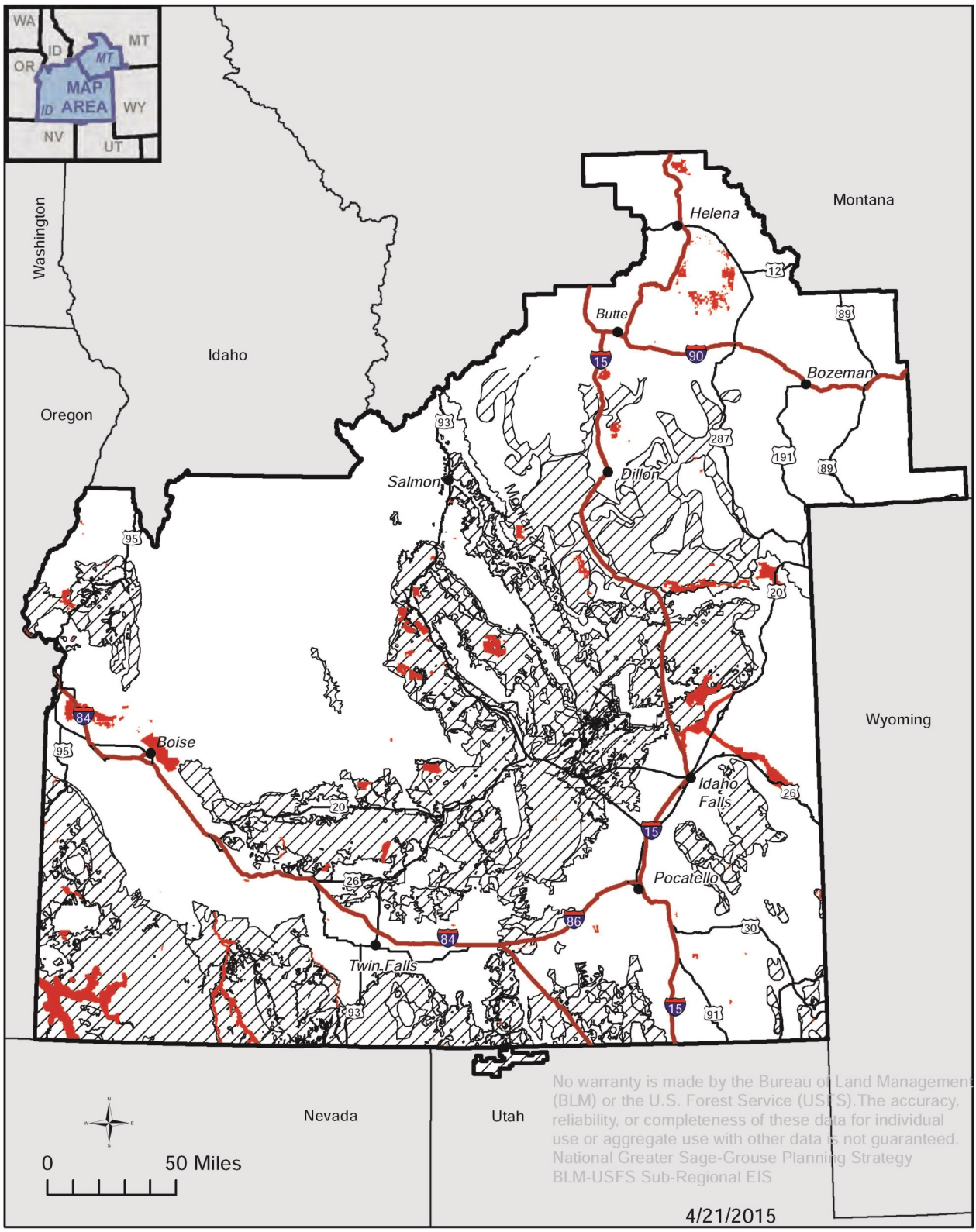
In 1964, the Wilderness Act (the Act) established the National Wilderness Preservation System to be managed by the Forest Service, National Park Service, and USFWS. In 1976, with the passage of the FLPMA, Congress made the BLM the fourth agency with wilderness management authority under the Wilderness Act.

Section 4(b) of the Act further sets forth the agencies' responsibilities in administering wilderness areas and states that the preservation of wilderness character is the primary management mandate. In the relevant part, the Act states: "Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area."

As set forth in Section 2(c) ("Definition of Wilderness") of the Wilderness Act, wilderness character is composed of four mandatory qualities and a fifth, optional, quality. These are:

i. Untrammeled. The Wilderness Act states that wilderness is "an area where the earth and its community of life are untrammeled by man." A "trammel" is literally a net, snare, hobble, or other device that impedes the free movement of an animal. Here, used metaphorically, "untrammeled" refers to wilderness as essentially unhindered and free from modern human control or manipulation. This quality is impaired by human activities or actions that control or manipulate the components or processes of ecological systems inside wilderness.

Figure 3.15
Existing Areas of Critical Environmental Concern with
Preliminary Priority and General Habitat



Existing ACEC

Analysis Boundary

Table 3-46
BLM Areas of Critical Environmental Concern

ACEC Name	State	Acres in PGH	Acres in PPH	Total Acres	Values
Antelope Flat RNA	Idaho	0	590	590	Unusual and uncommon plant communities
Big Beaver	Idaho	6,700	0	6,780	Natural Features (Elk Habitat)
Birch Creek	Idaho	4,460	4,180	8,660	Crucial winter range and lambing habitat for bighorn sheep. Rare plants.
Block Mountain	Montana	550	0	8,630	Geologic Resources
Boulder Creek	Idaho	880	4,190	6,980	Scenic and multiple natural resource values
Bruneau/Jarbidge River	Idaho	33,300	35,400	73,900	Cultural, Geological, Scenic, and Natural Features (Big Horn Sheep Habitat)
Buckwheat Flats RNA	Idaho	0	190	190	Special Status Plants
Centennial Mountains	Montana	0	13,100	40,800	Wildlife Resources – grizzly bear, lynx & wolf
Centennial Sandhills	Montana	0	1,050	1,050	Geological and Botanical Resources
China Cup Butte RNA	Idaho	0	160	160	Geological values.
Cinnabar Mountain	Idaho	230	0	280	Valuable Range Reference Area, Scenic Values, Special Status Animals including GRSG
Coal Mine Basin	Idaho	0	1,610	1,610	Special Status Plants and animals (only mentions that GRSG are present), scenery, paleontological resources
Cottonwood Creek	Idaho	0	330	330	Riparian Vegetation, redband trout, bighorn sheep, and scenic quality
Cronk's Canyon	Idaho	0	1,220	1,220	Wildlife and botanical resources. Relict bighorn sheep population. Pristine natural plant communities.
Cronk's Canyon RNA	Idaho	0	370	370	Wildlife and botanical resources. Relict bighorn sheep population. Pristine natural plant communities.
Dairy Hollow RNA	Idaho	0	40	40	Geological and botanical resources.
Donkey Hills	Idaho	9,280	15,400	29,700	Wildlife resources – crucial elk habitat.
Dry Gulch RNA	Idaho	0	540	540	Botanical resources – unusual plant communities; several rare plant populations.

Table 3-46
BLM Areas of Critical Environmental Concern

ACEC Name	State	Acres in PGH	Acres in PPH	Total Acres	Values
East Fork Salmon River Bench RNA	Idaho	0	90	80	Botanical resources – remnant pristine vegetation.
Elk Mountain	Idaho	760	11,900	12,700	Natural Features (Elk Habitat)
Everson Creek	Montana	0	8,820	8,820	Archaeological Resources
Geoff Hogander/Stump Creek	Idaho	2,450	0	2,470	Exceptional ecological communities
Goodrich Creek RNA	Idaho	390	0	390	Exceptional ecological communities
Goose Creek Mesa	Idaho	0	100	100	Natural Features (Vegetation)
Granite Pass	Idaho	0	90	300	Historic and Cultural Features
Herd Creek Watershed	Idaho	990	13,400	16,900	Botanical, fish and visual resources. Riparian recovery and demonstration area. Presence of rare plants. Variety of high elevation range and forest plant communities. Known spawning and rearing habitat for special status steelhead trout, bull trout, and Chinook salmon. Roadless/primitive and scenic values.
Herd Creek Watershed RNA	Idaho	0	280	1,060	Same as Herd Creek Watershed.
Hixon Columbia Sharp-Tailed Grouse Habitat	Idaho	6,780	690	11,800	Wildlife resources - Columbia Sharp-Tailed Grouse habitat.
Humbug Spires	Montana	20	0	8,370	Outstanding scenic qualities and diverse upland and aquatic habitat for plants, animals and fish.
Jim Sage Canyon	Idaho	150	490	660	Natural Features (Vegetation)
Jump Creek Canyon	Idaho	340	100	610	Riparian Communities
King Hill Creek	Idaho	610	1,340	2,870	Scenic and Natural Features (Redband Trout and Riparian)
Lone Bird	Idaho	0	9,980	9,980	Cultural and botanical resources. Numerous and unique cultural resources. Rare plants.
Malm Gulch/Germer Basin	Idaho	1,070	4,400	5,640	Botanical, paleontological, geologic resources. Concentration of rare plants, unusual plant communities. Petrified forest. Fragile soils.
Malm Gulch/Germer Basin RNA	Idaho	324	1,862	2,186	Same as Malm Gulch/Germer Basin

Table 3-46
BLM Areas of Critical Environmental Concern

ACEC Name	State	Acres in PGH	Acres in PPH	Total Acres	Values
McBride Creek	Idaho	0	260	260	Special Status Plants
McKinney Butte	Idaho	0	2,210	3,760	Geological, Scenic, and Natural Features (Bats, Unusual plants, and invertebrates)
Muddy Creek/Big Sheep Creek	Montana	680	12,400	13,100	Cultural Resources
Nine Mile Knoll	Idaho	920	18,800	41,600	Big game wildlife values.
North Fork Juniper Woodland	Idaho	370	0	4,410	Montane Western Juniper and Special Status Plants and Animals
North Menan Butte	Idaho	150	630	780	Geological values.
North Menan Butte RNA	Idaho	20	330	340	Geological and botanical values.
Oregon-California Trail Junction	Idaho	520	0	520	Historic and Cultural Features
Owyhee River/Bighorn Sheep	Idaho	46,100	154,900	201,000	Wildlife resources - bighorn sheep habitat
Peck's Canyon RNA	Idaho	0	780	780	Botanical resources – excellent condition plant communities.
Pennal Gulch	Idaho	230	5,530	5,840	Botanical resources – rare plants; unique riparian area; unique and representative vegetation.
Pine Gap RNA	Idaho	0	240	240	Botanical resources – rare plant *Cryptantha caespitosa.*
Playas	Idaho	0	40	40	Natural Features (Davis Peppergrass)
Pleasant Valley Table	Idaho	1,470	0	1,470	Botanical resources - excellent examples of Owyhee sagebrush-Sandberg bluegrass and low sagebrush-Idaho fescue communities
Rebecca Sand Hill RNA	Idaho	340	0	340	Special Status Plants
Salmon Falls Creek Canyon	Idaho	890	570	5,130	Pristine, Scenic, and Natural Features
Sand Hollow RNA	Idaho	0	3,340	3,340	Geological and botanical resources – fragile watershed, rare plant populations; geological area of interest.
Sevenmile Creek	Idaho	0	960	1,040	Natural hazard due to unstable nature of the soils and considerable slumps that occur.

Table 3-46
BLM Areas of Critical Environmental Concern

ACEC Name	State	Acres in PGH	Acres in PPH	Total Acres	Values
Snake River	Idaho	4,040	5,780	127,300	Botanical, Wildlife, Fish, Recreation, Scenic Resources-Extensive cottonwood riparian-wetland ecosystems, multiple listed species, world class fishery, visual class 1 areas.
Sommercamp Butte	Idaho	170	270	440	Botanical resources - good ecological condition of Mountain Mahogany-bluebunch wheatgrass communities
Squaw Creek	Idaho	30	110	150	Low elevation Wyoming sagebrush-bluebunch wheatgrass communities
Summit Creek ACEC	Idaho	0	110	110	Botanical Resources-Unique wetland system; rare plants; special recreation values.
Summit Creek RNA	Idaho	0	190	190	Botanical and Recreational Resources -Unique wetland system; rare plants; special recreation values.
Tee-Maze	Idaho	110	10,500	10,800	Geological, Scenic, and Natural Features (Bats, Unusual plants, and invertebrates)
The Badlands	Idaho	850	980	1,830	Scenic Values and Diverse Botanical Features
The Tules RNA	Idaho	100	20	110	Outstanding Geologic Features and Special Status Plants
Thousand Springs	Idaho	150	440	600	Botanical and Wildlife Resources-Unique wetland ecosystem; high value for waterfowl.
Thousand Springs RNA	Idaho	0	230	230	Botanical and Wildlife Resources-Unique wetland ecosystem; high value for waterfowl.
Travertine Park	Idaho	0	180	180	Botanical resources.
Travertine Park RNA	Idaho	0	20	20	Botanical resources.
Triplet Butte	Idaho	300	0	310	Undisturbed vegetation communities, cultural resources, bighorn sheep, and scenic quality
Virginia City Historic District	Montana	240	0	510	Cultural Resources

Source: BLM GIS 2015

ii. Natural. The Wilderness Act states that wilderness is "protected and managed so as to preserve its natural conditions." In short, wilderness ecological systems should be as free as possible from the effects of modern civilization. Management must foster a natural distribution of native wildlife, fish, and plants by ensuring that ecosystems and ecological processes continue to function naturally. Watersheds, water bodies, water quality, and soils are maintained in a natural condition; associated ecological processes previously altered by human influences will be allowed to return to their natural condition. Fire, insects, and diseases are allowed to play their natural role in the wilderness ecosystem except where these activities threaten human life, property, or high value resources on adjacent lands that are not wilderness. Additional guidance on this is provided in section 1.6.C of this manual, which addresses the management of specific activities in wilderness. This quality may be affected by intended or unintended effects of human activities on the ecological systems inside the wilderness.

iii. Undeveloped. The Wilderness Act states that wilderness is an area "of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation," "where man himself is a visitor who does not remain," and "with the imprint of man's work substantially unnoticeable." Wilderness has minimal evidence of modern human occupation or modification. This quality is impaired by the presence of structures or installations, and by the use of motor vehicles, motorized equipment, or mechanical transport that increases people's ability to occupy or modify the environment. More detail on the activities that impair this quality is found in Section 1.6.B of this policy.

iv. Solitude or Primitive and Unconfined Recreation. The Wilderness Act states that wilderness has "outstanding opportunities for solitude or a primitive and unconfined type of recreation." Wilderness provides opportunities for people to experience: natural sights and sounds; remote, isolated, unfrequented, or secluded places; and freedom, risk, and the physical and emotional challenges of self-discovery and self-reliance. Any one wilderness does not have to provide all these opportunities, nor is it necessary that they be present on every acre of a given wilderness. Where present, however, the preservation of these opportunities is important to the preservation of wilderness character as a whole. This quality is impaired by settings that reduce these opportunities, such as visitor encounters, signs of modern civilization, recreation facilities, and management restrictions on visitor behavior.

v. Unique, Supplemental, or Other Features. The Wilderness Act states that wilderness areas "may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." Though these values are not required of any wilderness, where they are present they are part of that area's wilderness character, and must be protected as rigorously as any of the four required qualities. They may include historical, cultural, paleontological, or other resources not necessarily considered a part of any of the other qualities. These

values are identified in a number of ways: in the area's designating legislation, through its legislative history, by the original wilderness inventory, in a wilderness management plan, or at some other time after designation.

Section 4(b) of the Wilderness Act states that: "Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use." In most cases the public purposes reflect one or more qualities of wilderness character and are administered so as to preserve the wilderness character of the area.

Section 4(c) of the Wilderness Act lists uses and activities that are specifically prohibited in wilderness: "Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area."

The BLM Wilderness Manual 6340 states: Wildlife management within wilderness is guided by all relevant laws, including the Wilderness Act, acts designating specific wilderness areas, the Endangered Species Act, the Migratory Bird Treaty Act, Native American treaty rights, 43 CFR 6300 (Management of Designated Wilderness Areas), 43 CFR 24 (Department of the Interior Fish and Wildlife Policy: State-Federal Relationships), and applicable State laws and policies regarding wildlife.

Many wilderness areas provide important habitat for federally listed threatened or endangered wildlife species. The BLM will manage wilderness areas to protect and recover known populations of federally listed threatened or endangered species and to aid in their recovery in previously occupied habitat. The wilderness restrictions can directly or indirectly influence GRSG and their habitat.

The BLM has seven wilderness areas within the planning boundary (**Table 3-47**). These seven areas are all within Owyhee County and were designated by Congress in 2009 through the Omnibus Public Lands Management Act.

A wilderness management plan for the seven BLM wilderness areas will be released in draft in February 2013. A final plan should be completed by mid to late 2013.

Table 3-47
BLM-Administered Wilderness Areas

BLM Wilderness Name	Wilderness Acres
Bear Trap Wilderness	6,350
Big Jacks Creek Wilderness	52,800
Bruneau-Jarbidge Rivers Wilderness	90,000

Table 3-47
BLM-Administered Wilderness Areas

BLM Wilderness Name	Wilderness Acres
Little Jacks Creek Wilderness	50,900
North Fork Owyhee Wilderness	43,400
Owyhee River Wilderness	267,300
Pole Creek Wilderness	12,500
Total BLM Wilderness	**523,250**

Source: BLM GIS 2013

Forest Service

The Forest Service, National Park Service, and BLM manage wilderness areas under the same legislation; the 1964 Wilderness Act. The agencies have similar objectives and policies related to wilderness. Below is text from the Forest Service wilderness manual.

Wilderness is a unique and vital resource. In addition to offering primitive recreation opportunities, it is valuable for its scientific and educational uses, as a benchmark for ecological studies, and for the preservation of historical and natural features.

Manage the wilderness resource to ensure its character and values are dominant and enduring. Its management must be consistent over time and between areas to ensure its present and future availability and enjoyment as wilderness. Manage wilderness to ensure that human influence does not impede the free play of natural forces or interfere with natural successions in the ecosystems and to ensure that each wilderness offers outstanding opportunities for solitude or a primitive and unconfined type of recreation. Manage wilderness as one resource rather than a series of separate resources (FSM 2300 Sec. 2320.6).

Objectives

- Maintain and perpetuate the enduring resource of wilderness as one of the multiple uses of National Forest System land.
- Maintain wilderness in such a manner that ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces.
- Minimize the impact of those kinds of uses and activities generally prohibited by the Wilderness Act, but specifically excepted by the Act or subsequent legislation.
- Protect and perpetuate wilderness character and public values including, but not limited to, opportunities for scientific study, education, solitude, physical and mental challenge and stimulation, inspiration, and primitive recreation experiences.
- Gather information and carry out research in a manner compatible with preserving the wilderness environment to increase understanding of wilderness ecology, wilderness uses, management opportunities, and visitor behavior.

Policy

- Where there are alternatives among management decisions, wilderness values shall dominate over all other considerations except where limited by the Wilderness Act, subsequent legislation, or regulations.
- Manage the use of other resources in wilderness in a manner compatible with wilderness resource management objectives.
- In wildernesses where the establishing legislation permits resource uses and activities that are nonconforming exceptions to the definition of wilderness as described in the Wilderness Act, manage these nonconforming uses and activities in such a manner as to minimize their effect on the wilderness resource.
- Cease uses and activities and remove existing structures not essential to the administration, protection, or management of wilderness for wilderness purposes or not provided for in the establishing legislation.
- Because wilderness does not exist in a vacuum, consider activities on both sides of wilderness boundaries during planning and articulate management goals and the blending of diverse resources in forest plans. Do not maintain buffer strips of undeveloped wildland to provide an informal extension of wilderness. Do not maintain internal buffer zones that degrade wilderness values. Use the Recreation Opportunity Spectrum (FSM 2310) as a tool to plan adjacent land management.
- Manage each wilderness as a total unit and coordinate management direction when they cross other administrative boundaries.
- Use interdisciplinary skills in planning for wilderness use and administration.
- Gather necessary information and carry out research programs in a manner that is compatible with the preservation of the wilderness environment.
- Whenever and wherever possible, acquire non-federal lands located within wildernesses, as well as non-federal lands within those areas recommended for inclusion in the system.

The Forest Service manages eight wilderness areas; either all or portions of the areas are in the planning area (**Table 3-48**).

Table 3-48
National Forest System Wilderness Areas

Forest Service Wilderness Name	Wilderness Acres
Sawtooth	217,100
Frank Church River of No Return	2,366,900
Anaconda Pintler	158,600
Gates of the Mountains	28,600
Lee Metcalf	264,600
Red Rock Lakes	32,400

Table 3-48
National Forest System Wilderness Areas

Forest Service Wilderness Name	Wilderness Acres
Absaroka Beartooth	943,600
Total Forest Service Wilderness	2,709,100

Source: BLM GIS 2013

National Park Service

The following is from the National Park Service Wilderness Management Policy 2006: The National Park Service will manage wilderness areas for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness. Management will include the protection of these areas, the preservation of their wilderness character, and the gathering and dissemination of information regarding their use and enjoyment as wilderness. The purpose of wilderness in the national parks includes the preservation of wilderness character and wilderness resources in an unimpaired condition and, in accordance with the Wilderness Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

Craters of the Moon National Monument manages one wilderness area within the planning boundary (**Table 3-49**).

Table 3-49
National Park Service Wilderness Areas

National Park Service Wilderness Name	Wilderness Acres
Craters of the Moon National Wilderness	43,200
Total National Park Service Wilderness	**43,200**

Source: BLM GIS 2013

3.13.3 Wilderness Study Areas

Section 603 of FLPMA directed the BLM to carry out a wilderness review of the BLM-administered lands. The wilderness inventory was conducted from 1978 to 1980. The original inventory focused on roadless areas of BLM-administered lands of 5,000 acres or more and on roadless islands, but also included areas of less than 5,000 acres that had wilderness characteristics in association with contiguous roadless lands managed by another agency, and areas of less than 5,000 acres that had wilderness characteristics and could practicably be managed to keep those characteristics in an unimpaired condition. Additional WSAs were designated through the BLM land use planning process under the authority of Sections 201, 202, and 302 of FLPMA after the reports to Congress were completed in 1993.

The inventory phase identified areas that were found to have the characteristics of wilderness enumerated by Congress in Section 2 (c) of the Wilderness Act of 1964:

"A wilderness…(1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities

for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." When these characteristics were found within a defined boundary, the presence of the wilderness resource was documented and the area was classified as a WSA.

During the study phase, all values, resources, and uses occurring within each WSA were analyzed, pursuant to the NEPA, through legislative environmental impact statements. When the study was completed, recommendations as to the suitability or unsuitability of each WSA for designation as wilderness were submitted to the President through the Secretary of the Interior, and then from the President to Congress.

Consistent with BLM Manual 6330 and FLPMA Section 603(c), the BLM currently manages approximately 770,000 acres of WSAs within the planning boundary. This includes 10 WSAs in the Dillon Field Office and 34 WSAs in the Idaho Field Offices. **Table 2-9** identifies acres of WSAs that contain GRSG habitat in the decision area for this LUPA/EIS.

3.13.4 National Landscapes, Monuments, and Conservation Areas

National Landscape Conservation System

The National Landscape Conservation System (NLCS) was created in 2000 through an order signed by Interior Secretary Babbitt. The concept of the NLCS was for the BLM to manage a system of lands with a dominant conservation mission. In the order, Secretary Babbitt included lands, rivers, and trails designated by acts of Congress or presidential proclamations under the 1906 Antiquities Act as units in the NLCS. In 2009, Congress passed the Omnibus Public Lands Management Act, which permanently established the NLCS "… to conserve, protect and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations."

Since the creation of the NLCS, the BLM has promoted understanding of the system. As a way to help the public recognize the NLCS, the BLM has developed a brand and logo: National Conservation Lands.

Within the planning area, there are multiple units representing the National Conservation Lands. These include a National Monument, a National Conservation Area, Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers, and National Scenic and Historic Trails.

National Monuments and National Conservation Areas

National Monuments are areas either designated by Congress or by presidential proclamation (under the authority of the Antiquities Act of 1906) to protect unique historic landmarks, historic and prehistoric structures, or other objects of historic or scientific interest. Within the planning area, the BLM and the National Park Service jointly administer the Craters of the Moon National Monument and Preserve (737,700 acres). The BLM portion of the monument was designated in 2000 to protect *kipukas* (small areas surrounded

by lava). These are some of the last undisturbed vegetation communities on the Snake River Plain and the surrounding sagebrush (*Artemisia* spp.) steppe ecosystem. They consist of diverse communities of grasses, sagebrush, and shrubs that provide habitat for a variety of wildlife. This area also includes lava tube caves, older volcanic formations, and volcanic buttes. Craters of the Moon is managed to protect and preserve the objects and values for which it was designated.

National Conservation Areas (NCAs) are designated by Congress to conserve, protect, enhance, and manage public land areas for the benefit and enjoyment of present and future generations. NCAs feature exceptional natural, recreational, cultural, wildlife, aquatic, archaeological, paleontological, historical, educational, and scientific resources. Within the planning area, the BLM manages the Morley Nelson Snake River Birds of Prey National Conservation Area (485,000 acres). Congress established the NCA in 1993 to protect a unique environment that supports one of the world's most dense concentrations of nesting birds of prey. Falcons, eagles, hawks, and owls are found here in exceptional profusion and variety. The NCA is managed to conserve, protect, and enhance raptor populations and their associated habitats.

The BLM manages National Monuments and National Conservation Areas in accordance with the direction provided in BLM Manual 6220. This policy will be adhered to during any site-specific NEPA analyses that are conducted within either of these areas.

National Scenic and Historic Trails

A National Historic Trail (NHT) is congressionally designated as an extended long-distance trail, not necessarily managed as continuous. It follows as closely as possible and practicable the original trails or routes of travel of national historic significance. The purpose of an NHT is to identify and protect the historic route and the historic remnants and artifacts for public use and enjoyment. An NHT is managed to protect the nationally significant resources, qualities, values, and associated settings of the areas through which such trails may pass, including the primary use or uses of the trail.

While National Scenic and Historic Trails cross lands managed by different agencies, trails and trail segments that cross BLM-administered lands are managed in accordance with BLM Manual 6280, Management of National Scenic and Historic Trails and Trails Under Study or Recommended as Suitable for Congressional Designation. This manual mandates that the BLM establish NHTs Management Corridors to assist in the management of the resources, qualities, values, and associated settings and the primary use or uses for which the NHT was designated. The designation of NHTs Management Corridors in the future may encompass lands that include GRSG habitat and may include management decisions and actions that likely will have positive effects on GRSG populations.

Table 3-50 lists the NHTs in the planning area, by planning district.

Table 3-50
National Historic Trails

Planning District	National Historic Trail
BLM	
Dillon Field Office	Lewis and Clark National Historic Trail Oregon National Historic Trail
Burley Field Office	California National Historic Trail
Four Rivers Field Office	Oregon National Historic Trail
Owyhee Field Office	Oregon National Historic Trail
Pocatello Field Office	Oregon National Historic Trail California National Historic Trail
Salmon Field Office	Lewis and Clark National Historic Trail
Shoshone Field Office	Oregon National Historic Trail
Upper Snake Field Office	Oregon National Historic Trail Nez Perce National Historic Trail
Forest Service	
Beaverhead-Deerlodge National Forest	Nez Perce National Historic Trail Oregon National Historic Trail
Caribou-Targhee National Forest	Nez Perce National Historic Trail

3.13.5 Wild and Scenic Rivers

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 USC 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

> *It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dams and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.* (Wild & Scenic Rivers Act, October 2, 1968)

Rivers may be designated by Congress or, if certain requirements are met, the Secretary of the Interior. Each river is administered by either a federal or state agency. Designated segments need not include the entire river and may include tributaries. For federally administered rivers, the designated boundaries generally average one-quarter mile on either

bank in the lower 48 states and one-half mile on rivers outside national parks in Alaska in order to protect river-related values.

River Classification

Rivers are classified as wild, scenic, or recreational.

- Wild River Areas – Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
- Scenic River Areas – Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- Recreational River Areas – Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Regardless of classification, each river in the National System is administered with the goal of protecting and enhancing the values that caused it to be designated. Designation neither prohibits development nor gives the federal government control over private property. Recreation, agricultural practices, residential development, and other uses may continue. Protection of the river is provided through voluntary stewardship by landowners and river users and through regulation and programs of federal, state, local, or tribal governments. In most cases not all land within boundaries is, or will be, publicly owned, and the Act limits how much land the federal government is allowed to acquire from willing sellers. Visitors to these rivers are cautioned to be aware of and respect private property rights.

The Act purposefully strives to balance dam and other construction at appropriate sections of rivers with permanent protection for some of the country's most outstanding free-flowing rivers. To accomplish this, it prohibits federal support for actions such as the construction of dams or other instream activities that would harm the river's free-flowing condition, water quality, or outstanding resource values. However, designation does not affect existing water rights or the existing jurisdiction of states and the federal government over waters as determined by established principles of law.

The Forest Service manages two designated rivers within the planning boundary (**Table 3-51**). The Middle Fork of the Salmon is wholly within the planning boundary whereas only a portion of the Salmon River is within the planning boundary.

The BLM manages 16 designated rivers that are wholly within the planning boundary (**Table 3-52**). All of the 16 rivers are within wilderness areas. Where the wilderness policy is more restrictive than the Wild and Scenic Rivers policy regarding actions within wilderness, the wilderness policy takes precedence; however, Wild and Scenic Rivers must be administered so as to protect and enhance the values that caused it to be designated.

Table 3-51
National Forest System Wild and Scenic Rivers

Name	Classification	River Miles
Salmon River	Wild Recreational	79 46
Middle Fork of the Salmon River	Wild Scenic	103 1

Table 3-52
BLM-Administered Wild and Scenic Rivers

Name	Classification	River Miles
Battle Creek	Wild	23.4
Big Jacks Creek	Wild	35
Bruneau River	Recreational Wild	0.6 39.3
West Fork Bruneau River	Wild	0.35
Cottonwood Creek	Wild	2.6
Deep Creek	Wild	13.1
Dickshooter Creek	Wild	9.25
Duncan Creek	Wild	0.9
Jarbidge River	Wild	28.8
Little Jacks Creek	Wild	12.4
North Fork Owyhee River	Recreational Wild	5.7 15.1
Owyhee River	Wild	67.3
South Fork Of The Owyhee River	Recreational Wild	1.2 31.4
Red Canyon	Wild	4.6
Sheep Creek	Wild	25.6
Wickahoney Creek	Wild	1.5

3.13.6 Regional Context

Table 3-53 displays special designations data for GRSG habitat in the planning area. Data are presented by surface management agency and their occurrence within occupied GRSG habitat in the planning area and the MZs that overlap the planning area.

Table 3-53
Acres of Conservation Areas within GRSG Habitat

Surface Management Agency	Acres within PGH[1]			Acres within PPH[1]		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
BLM	231,000	511,100	741,400	904,200	241,300	1,510,700
Forest Service	400	46,800	3,000	500	2,500	26,600

Table 3-53
Acres of Conservation Areas within GRSG Habitat

Surface Management Agency	Acres within PGH[1]			Acres within PPH[1]		
	Planning Area	MZ II/VII[2]	MZ IV	Planning Area	MZ II/VII[2]	MZ IV
Tribal and Other Federal	240,100	105,700	254,800	67,900	93,300	76,000
Private	108,800	358,900	164,300	120,400	217,100	124,800
State	16,500	41,400	16,600	22,300	44,000	22,500
Other	1,500	4,400	1,500	21	26,500	21

Source: Manier et al. 2013
[1]Includes Areas of Critical Environmental Concern, USFWS refuges, National Conservation Easements, National Park Service units, National Landscape Conservation System Units, congressionally designated Wilderness areas, and conservation areas on private and state land.
[2]BER combined acres for MZs II and VII

3.14 Soil Resources

Many resources and resource uses, including livestock grazing, wildlife habitat, riparian habitat, special status species, fisheries, recreation, water quality and forestry, depend on suitable soils. Consequently, soil attributes and conditions are important to BLM and Forest Service management direction.

Soils are defined by the processes that form them. Through time, these processes form unique soil types and influence what plants may grow upon them. Soil surveys indicate that climate and topography are the primary influences on soil formation. Soil development processes, such as rock weathering, decomposition of plant materials, accumulation of organic matter, and nutrient cycling, are controlled largely by climate. Soil moisture and temperature strongly affect the rates of addition, removal, translocation, and transformation of material within the soil. Topography influences site conditions such as precipitation amounts and effectiveness, drainage, runoff, erosion potential, and temperature.

Soils play an integral part in vegetation community development. Plants use soil as an anchor, a means to provide water for growth, and a storehouse for the nutrients needed for growth. Plant communities are most noticeably influenced where soil texture and thickness of soil horizons change, depth to restrictive layers including abrupt soil horizon boundaries exist, and by soil drainage, moisture holding capacity, or depth to water table. Native plant communities require management considerations that include the ability of the soil to produce a healthy ecosystem over the long term. Reducing the risk of erosion from water and air processes, limiting compaction from traffic source or grazing, and allowing the water to infiltrate at a normal rate for the given soil texture will allow vegetative communities to thrive and further protects the soil resources.

The NRCS provides soil mapping across the United States. Soil information and mapping from the NRCS are provided below under existing conditions to describe soil resources.

Land uses strive to conform to Standards for Public Land Health on BLM-administered lands, which describe conditions needed to sustain public land health and relate to all uses of the BLM-administered lands.

3.14.1 Conditions within the Planning Area

Soil Productivity

Soil productivity within the planning area varies widely due to the diversity of soils and site characteristics, specifically differences in elevation and slope gradient. The planning area landscape varies greatly from broad valleys to mountains.

The average annual precipitation and temperature in the project area vary greatly by elevation and aspect. Some of the most productive soils are found in well drained valley bottoms, toe-slopes, benches, and broad ridge topes. On uplands where rainfall is moderate to low, medium-textured soils may produce favorable conditions, depending on land uses such as livestock grazing. Soils that feature shallow clay pans, hardpans, or salts pose substantial constraints to land use and land use management.

Management practices affect the ability of soils to maintain productivity by influencing disturbances such as displacement, compaction, erosion, and alteration of organic matter and soil organism levels. When soil degradation occurs in semiarid, high desert regions, natural processes are slow to return site productivity. Prevention of soil degradation is far more cost-effective and time effective than remediation or waiting for natural processes. Management practices, such as proper stocking rates for livestock, rotation of grazing, periodic rest from grazing, improved design, construction and maintenance of roads, selective logging, rehabilitation of unneeded surface disturbance, restricting vehicles to roads and trails, rehabilitating mined areas, and control of concentrated recreational activities, have reduced erosion effects and improved soil conditions.

Soil Erosion

Erosion is a continuing natural process that can be accelerated by human disturbances. Factors that influence soil erosion include soil texture, structure, length and percent of slope, vegetative cover, and rainfall or wind intensity. Soils most susceptible to erosion by wind or water are typified by bare or sparse vegetative cover, incohesive soil particles with slow infiltration rates, and moderate to steep slopes. Wind erosion processes are less affected by slope angle but are highly influenced by wind intensity.

The semi-arid planning area has a low percentage of natural plant community ground cover, allowing the soils to erode naturally in wind and during infrequent rain events. In addition, management actions affect the rate at which soil erodes. Activities that remove vegetative cover increase the erosion rate. Some soils are particularly vulnerable to soil erosion.

NRCS soil map unit descriptions rate soils in the planning area according to their susceptibility to water and wind erosion. Wind erosion is particularly a hazard when surface litter and vegetation are removed by fire or other disturbances. Soils in the planning area

were screened based on several relevant characteristics that indicate potentially fragile soils or high erosion hazards. These characteristics include:

- soils rated as highly or severely erodible by wind or water, as described in NRCS soil survey reports
- landslide areas as identified in NRCS soil survey reports
- soils on slopes greater than 35 percent

Soil Types

When making land management decisions based on soil related hazards or limitations, the BLM evaluates soil surveys available from the NRCS. Soils mapped according to the boundaries of major land resource areas, which are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses. Each soil survey describes the specific properties of soils in the area surveyed and shows the location of each kind of soil on detailed maps. The BLM evaluates soil map units to make management decisions that would likely affect soils. Each soil survey applicable to the planning area describes soil map units by the individual soil or soils that make up the unit. These descriptions indicate the limitations and hazards inherent in each unit. Descriptions include soil depth, range of elevation, origin, climate, physical properties, runoff capabilities, erosion hazard, associated native vegetation, wildlife habitat use, and capability for community development and other uses.

Soil can be classified in many ways according to a whole host of parameters. For the generalization of soils in the planning area, the taxonomy of soil order is a convenient starting place. Most of the soils in the planning area are part of the largest soil order, Mollisols. The remaining areas are composed of similar young developmental soils in the Inceptisol, Entisol, and Andisol orders, with a very small amount of Histisols and Vertisols that have particular properties that may be of importance.

Soil properties can provide information as to why certain plants may grow in one area and not another, or why erosion occurs by wind and not water. The NRCS provides a suite of risk ratings, interpretations, and basic soil data that describes soils resources. The soil texture for most soils across the planning area is a loam as composed of the representative percent of sand, silt and clay. Some greater or lesser amounts of these percentages produce clayey loams and silty loams for the most part. The soils have very low amounts of organic matter (2 percent), low available moisture content in the top 10 inches (25.4 cm) and are considered well drained. The risk of erosion by water is slight, except in those very steep canyons and exposed bedrock ridges that have a severe to very severe rating. The overall majority of the planning area is considered to be of slight risk for erosion. The soils are prone to degradation when soil is removed in excess of the ability to rebuild it. In this area of the state, the amount of loss can be significant with wind exposure or increased erosion from water. Only 1 to 2 tons of soil per acre per year needs to be removed in approximately half of the planning area to have a loss of long term productivity.

The amount of sand, silt and clay in the soil alters the water infiltration. Soils with higher amounts of silt and clay infiltrate water more slowly than soils with higher amounts of sand. For most of the planning area water infiltrates rapidly into the soil resulting in little standing water.

Hydric (wet) soils and unique biological soil crusts are key soil resources in the planning area.

Hydric Soils. Hydric soils constitute only a small portion of the planning area. Hydric soils are associated with riparian areas and wetlands. Riparian-wetland soils are found throughout the planning area along water courses, near springs, seeps, playas, and adjacent to reservoirs. Because of the presence of water, riparian-wetland soils have properties that differ from upland areas.

Biologic Soil Crusts. Biologic soil crusts are made up of tiny living plants and bacteria that grow together on the soil surface. They help keep the soil from washing or blowing away, fix nitrogen from the atmosphere into the soil, help keep out weeds, and promote the health of plant communities. Loss of biological soil crusts is a contributing factor in the replacement of native vascular plants by invasive species such as cheatgrass or medusa head.

Based on research throughout the west, parameters for the ecology and management of biological soil crusts have been developed by the Department of the Interior. Factors found affecting presence, density, cover, and species diversity of macrobiotic crusts include elevation, soils, and topography, disturbances, timing of precipitation, vascular plant community, ecological gradients and microhabitats.

Biological Soil Crusts

Biological soil crusts are an important component of a broad range of ecological sites in the Intermountain West. They function as a living mulch by retaining soil moisture, increasing organic matter, and discouraging annual weed growth (Eldridge and Greene 1994; Belnap and Gillette 1997, 1998; Belnap 2001; McKenna-Neumann et al. 1996; Rosentreter et al. 2007). Biological soil crust communities are more prevalent at lower elevations, compared to higher elevations with greater precipitation, where vascular plant growth precludes biological crust development (Belnap 2001). Specific to soil erosion, biological soil crusts protect interspatial surface areas by occupying open areas between larger plants (Belnap et al. 1997). Biological crust condition and cover is also a direct function of the ecological health of the plant community. The NRCS *National Range and Pasture Book* identifies biological soil crusts as a critical ecological attribute to be used as an indicator of rangeland health (USDA 2003). Human disturbances have been documented to impact the diversity and function of these communities (Robinson et al. 2013; Peterson 2013).

3.14.2 Trends

Soil resources change slowly unless catastrophic or larger scale disturbance events such as landslides, floods, volcanoes, or wildfires occur. Then, erosion or deposition would change the ground cover at one point or many. Thus, the degree of change in the planning area would be considered low or insignificant, with the direction of change being the most likely

to occur naturally over time. There have been larger wildfire events and to some degree restoration activities that have altered the vegetation communities where juniper has been invading sagebrush communities.

The overall guidance for soil resources is to maintain or improve the ability of the soil to support vegetation and allow water and nutrients to be cycled by either macro or microorganisms, all of which promote and improve the health of the land. Degradation by excessive grazing, erosion, or land developments will cause a reduction in soil function as one or perhaps many of the soil properties are changed thereby affecting the functions necessary for healthy soils. In the planning area, impacts on soil resources have resulted from energy development, grazing, recreation, natural processes, and other activities. The potential for maintaining or restoring these communities and conserving the soil resource depends on the specific soil types and how resource programs are managed.

3.15 Water Resources

Water on BLM-administered and National Forest System lands is regulated by the Clean Water Act, Safe Drinking Water Act, Public Land Health Standards, and other laws, regulations, and policy guidance at the federal, state, and local levels. Water resources in Idaho are regulated by the EPA, US Army Corps of Engineers, and the Idaho Department of Environmental Quality.

The Idaho Department of Environmental Quality has granted designated management agency status to the BLM. As a designated management agency, the BLM must: (1) implement and enforce natural resource management programs for the protection of water quality on federal lands under its jurisdiction; (2) protect and maintain water quality where it meets or exceeds applicable state and Tribal water quality standards; (3) monitor activities to assure that they meet standards and report the results to the State of Idaho; and (4) meet periodically to recertify water quality BMPs. BMPs include methods, measure, or practices to prevent or reduce water pollution, including but not limited to structural and nonstructural controls, operations, and maintenance procedures. BMPs are applied as needed to projects.

3.15.1 Existing Conditions

The discussion of existing conditions includes a description of water resources for the planning area, regardless of landownership. Where appropriate, it also includes a more detailed description of water resources for just BLM-administered lands within the planning area. For this, the description is limited to describing water resources associated with GRSG and their habitat. Wetlands and livestock water developments are important sources of water that can influence GRSG and their habitat.

3.15.2 Conditions within the Planning Area

The BLM is the overwhelming land manager in the planning area. The Forest Service, USFWS, Bureau of Indian Affairs, and State of Idaho all have lands within the planning area that also contain a suite of water resources.

Within the planning area, the major water features are streams, lakes, wetlands, playas, and dry lakes. Streams can be ephemeral, intermittent, or perennial. Ephemeral streams do not flow during an average water year, but do flow in response to large precipitation events. Intermittent streams flow during spring runoff for an average water year, but generally dry up later in the summer. Perennial streams contain some water all year for an average water year. Lakes can be permanent or temporary. Wetlands and floodplains vary in extent and depth throughout the year. Permanent waters can also be in the form of ponds and reservoirs developed for human or livestock consumption.

Stream channels and floodplains are important because their shape and condition affect how rapidly water flows through a river system, how much water is stored within the basins, the quality of the water, and how much erosion occurs. These functions, in turn, affect fish and wildlife habitat, agriculture, recreation, and the susceptibility of local communities and landowners to floods.

As early land management reduced vegetation in the watershed, overland flow of water increased, and stream channels deepened to match the increased supply of water and sediment. Major flood events in the late 1800s were the likely immediate cause of the deepening channels. Channel incisions eventually lead to bank failures and subsequent channel widening. As channel widening and bank failures continued, new low flow channels began to form in the debris from bank failure. Many of the stream channels in the planning area were in the process of this initial buildup in the 1980s. The result of this process is that new channels are usually lower than pre-disturbance channels, and the old floodplain now functions primarily as a terrace. Some terraces may be the result of climatic variations and associated changes in flow and sediment supply. The final stage of channel evolution results in a new bankfull channel and active floodplain at a new, lower elevation. Many stream channels in the planning area have new, lower elevation channels and floodplains.

Surface Water

The United States is divided and sub-divided into successively smaller hydrologic units called regions, sub-regions, accounting units (basins), and cataloging units (sub-basins). Each hydrologic unit is identified by a unique hydrologic unit code consisting of two to eight digits. The fourth level of classification (sub-basin) is represented by an eight-digit hydrologic unit code.

The historic scarcity of stream flow in the planning area has led to increased flow regulation by the State of Idaho. Projects for irrigation, livestock, human use, and flood control have significantly altered natural flow regimes. This has changed habitat conditions, channel stability and timing of sediment and organic material transport. Stream flow has been altered by management activities such as water impoundments, water withdrawals, road construction, vegetation manipulation, grazing, fire suppression, and timber harvesting.

Most surface runoff in the planning area is from snowmelt or rainfall producing peak discharges in the spring and early summer. Many of the streams in the lower elevation semi-arid areas are either intermittent, with segments of perennial flow near springs, or ephemeral, with flow only during spring runoff and intense summer storms.

Riparian Areas and Wetlands

Riparian areas are ecosystems that occur along rivers, streams or water bodies. These area exhibit vegetation or physical characteristics reflective of a permanent surface or subsurface water influence. Typical riparian areas include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers, streams, and shores of lakes and reservoirs with stable water levels. Excluded are sites such as ephemeral streams or washes that do not exhibit vegetation dependent on free water in the soil. Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and which under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include marshes, swamps, lake shores, lakeshores, sloughs, bogs, wet meadows, and riparian areas. Even through riparian and wetlands areas occupy only a small percentage of the planning area, these areas provide a wide range of functions critical to many different wildlife species, improve water quality, provide scenery, and recreational opportunities.

The BLM uses proper functioning condition (PFC) assessments for evaluating riparian-wetland areas and uses it to supplement existing stream channel and riparian area evaluations and assessments. Each riparian-wetland has to be judged against its capability and potential. The capability and potential of natural riparian-wetland areas are characterized by the interaction of hydrology, vegetation, and erosion/deposition. PFC is defined separately for lotic (moving water systems, such as rivers, streams, and spring and lentic (standing water systems, such as lakes, ponds, seeps, and wet meadows). If a riparian or wetland area is not in PFC, it is placed into one of three other categories; functional at risk, nonfunctional, or unknown.

The majority of BLM stream channels and floodplains within the planning area are not meeting the BLM standard of PFC. However relatively few stream channels are nonfunctioning. More intermittent stream channels are in nonfunctioning condition than perennial streams but they also have more miles of stream at potential and PFC.

Water Quality

Water quality as defined by the Clean Water Act, includes all the physical, biological, and chemical characteristics which affect existing and designated beneficial uses. The state of Idaho is required to identify which beneficial uses a water body currently supports or could support in the future. Water quality standards are established to protect the beneficial uses of the State's waters. Beneficial uses in planning area are public and private domestic water supplies, industrial water supply, irrigation, livestock watering, fish and aquatic life, and recreation.

The State of Idaho is required by section 303(d) of the Clean Water Act to identify waters which are water quality impaired because of failing to meet their designated beneficial uses. Section 303(d) requires that each state develop a list of water bodies that fail to meet water quality standards and delineate stream segments and listing criteria for all streams. The Section 303(d) list of impaired waters is updated biannually, and the state is required to develop a total maximum daily load allocation for each pollutant of concern.

Water quality is evaluated based on the ability of a water body to support beneficial uses of the water. Generally, key water qualities are those that support native fish and wildlife and support human uses such as agriculture, recreation, and domestic water supply.

The major water quality concern for streams in the planning area has been water temperature. These water temperature concerns correlate to the beneficial use of fish spawning and rearing habitat. Conditions that affect stream temperature can be summaries as amount of near stream vegetation, channel shape, and hydrology. Many of these conditions are interrelated, and many conditions vary considerably across the landscape. For example, channel width measurements can change greatly over even small distances along a stream. Some conditions vary daily and or seasonally. Stream orientation from a north-south to an east-west can change solar heating considerably when stream width and vegetation type remain the same.

Removal of riparian vegetation and the shade it provides contributes to elevated stream temperatures. Channel widening can similarly increase solar loading. The principal source of heat energy delivered to the water column is solar energy striking the stream surface directly. Exposure to solar radiation can cause an increase in stream temperature. The ability of riparian vegetation to shade the stream throughout the day depends on aspect and vegetation height, width, density, and position relative to the stream, as well as aspect the stream flows.

Causes of stream degradation are removal of riparian vegetation and destabilization of streambanks. The land use most commonly associated with these problems in the planning area is livestock grazing. Other land uses associated with degraded streams include roads, trails, water withdraw, reservoir storage and release, altered physical characteristics of the stream and wetlands alteration.

Groundwater

Groundwater is used for irrigation, domestic use, and livestock use. The quality of the groundwater is a function of the chemical makeup of the underground formation containing the water. Most of the planning area contains good quality water but the water is usually hard and contains moderate amounts of dissolved minerals.

Springs and seeps occur in areas where water from aquifers reaches the surface. Many springs begin in stream channels and others flow into small ponds or marshy areas that drain into channels. Some springs and seeps form their own channels that reach flowing streams, but other springs lose their surface expression and recharge alluvial fill material or permeable stratum.

Springs and seeps are important to aquatic habitats because of the perennial base flow they provide to a stream. The outflow from springs in summer usually helps to maintain lower water temperatures. In winter, especially in small streams, base flow helps to maintain an aquatic habitat in an otherwise frozen environment.

Water Quantity
Water balance across the United States is approximately 30 percent runoff and 70 percent evaporation. This may be different across the planning area due to higher temperatures and lower relative humidity in some areas.

Peak flows are connected with the spring runoff and snow melt with a decrease to near base flow during the month of July. Seasons and years of low water yield are particularly crucial periods for most of the planning area's beneficial uses.

The annual flow patterns may have changed since the 19th century. Historical descriptions indicate that streams were relatively stable with good summer streamflow and good water quality and heavy riparian cover. Streambanks were covered with dense growths of aspen, poplar, and willow; cottonwood galleries were thick and wide; and beaver were abundant. Now peak flows are greater and late season flows are diminished. This may be the normal condition of larger flowing streams in the planning area. It is suspected that these effects are due to reduced rates of soil infiltration, reduced capacity for groundwater/riparian storage, and loss of in channel storage in beaver ponds.

3.15.3 Trends

Demands on water resources have increased over the past few decades. Although most early water rights were established for irrigation and mining, today's demand includes municipal water supplies, commercial and industrial supplies, and maintenance of adequate streamflow for fish, recreation, and water quality.

The availability of water in much of the planning area is limited and may hamper additional developments that depend on water. Future water development for wildlife, recreation, and livestock would require a State of Idaho water right before project implementation could occur.

3.16 Cultural Resources

In this section the term "cultural resources" is used to encompass the broad scope of resources that must be considered by the BLM and Forest Service and as further defined below. A cultural resource is a definite location of human activity, occupation, or use identifiable through field survey, historical documentation, or oral evidence (BLM Manual 8100). The term cultural resources is inclusive and has been adopted and widely used to refer to the diverse human record found in sites, structures, objects and places created and/or used by people. These may comprise archaeological, historic, or architectural sites, structures, objects, or places, and may include locations of traditional cultural or religious importance to a particular social and/or cultural group, often referred to as Traditional Cultural Properties. The term includes "historic properties," as defined in the National Historic Preservation Act of 1966, as amended (NHPA), and the implementing regulations found at 36 CFR Part 800. Historic properties are cultural resources determined to be eligible for listing on the National Register of Historic Places (NRHP). The term also includes "archaeological resources" as defined in the Archaeological Resources Protection Act of 1979, and other sites, structures, objects, items and places as addressed in other

statutes/regulations (e.g., American Indian Religious Freedom Act of 1978, the Antiquities Act of 1906, NEPA, and the Native America Graves Protection and Repatriation Act of 1990).

Cultural resources are represented by the full temporal range of human occupation of the continent, from the first peoples' arrival and settlement in the region over 13,000 years ago and subsequent tribal groups expansion and use throughout all of the sub-region and other parts of the West to more recent incursions of fur trappers, homesteaders and miners and ranchers of the last 200 years. Cultural resources can include surface and buried artifacts and cultural features made and left by human cultures in archaeological sites; items built by past cultures (e.g., houses/house remains and activity areas); and places associated with traditional cultural uses.

3.16.1 Considering Effects on Cultural Resources Pursuant to Section 106 of the NHPA

Cultural resources are most frequently identified and recorded through federal compliance with Section 106 of the NHPA and subsequent consultation with Native American tribes and State Historic Preservation Offices (SHPO). Section 106 requires that federal agencies that fund, approve, authorize, license, or permit actions or undertakings to consider effects on "historic properties" that could occur due to the proposed undertakings. It is important to emphasize again that the term "historic property" has a specific meaning under the NHPA, referring only to those properties determined to be eligible for or listed in the NRHP regardless of property type or period of use (e.g., traditional cultural property or archaeological site, and historic or prehistoric).

Federal regulations define specific criterion for NRHP eligibility and provide the measures for evaluating cultural resources for their eligibility. These criteria are found at 36 CFR 60.4. Once a cultural resource has been determined to be eligible for the NRHP the agency must consider the potential effects of the proposed action on the historic property and provide measures to either reduce or mitigate any adverse effects. Consequently, compliance with Section 106 provides a primary mechanism for federal agencies to assess and take into account the effects of proposed federal actions or undertakings on cultural resources during NEPA reviews.

The BLM follows alternative procedures, defined in state specific protocols, for meeting its Section 106 obligations allowed for and pursuant to the implementing regulations of the NHPA (36 CFR 800.14). In collaboration with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers, the BLM developed alternative procedures that define the manner in which the agency will comply with Section 106 of the NHPA. These procedures are defined in a national Programmatic Agreement, revised in 2012, between the three parties. The national Programmatic Agreement procedures are implemented by the state specific protocol agreements with each state's SHPO. The protocols further define how the BLM will coordinate with the SHPO in each state to fulfill Section 106 responsibilities.

Prior to initiating proposed actions for protection and enhancement of GRSG and GRSG habitat, the responsible manager shall determine the area of potential effect; review existing information on known and anticipated historic properties that could be affected; seek information (in coordination with environmental review and land use planning processes) from Native American tribes and other parties likely to have knowledge of or concern with historic properties (including places of traditional cultural and religious significance); determine the need for field surveys or other actions to identify historic properties; make a good faith effort to identify and evaluate historic properties; assess and determine effects on historic properties; and identify measures to avoid, lessen or mitigate adverse effects on historic properties.

As the various types of GRSG/habitat improvement projects are identified, effects on cultural resources can be assessed on a case by case or programmatic level; however, given current information, it is assumed that all future actions will require separate NHPA analyses. Any programmatic procedures not covered by the BLM's national Programmatic Agreement or state protocols will require either (a) separate NHPA analysis, or (b) a separate Section 106 agreement.

3.16.2 Conditions of the Planning Area

The planning area includes federal lands administered by the BLM Boise, Twin Falls, and Idaho Falls Districts in Idaho and the Dillon Field Office of the Western Montana District in Montana. National Forest System lands include lands administered by the Boise, Sawtooth, Salmon-Challis, and Caribou-Targhee National Forests in Idaho, and the Beaverhead-Deerlodge National Forest in Montana. A majority of the habitat is sagebrush steppe on BLM-administered land, with upland sagebrush steppe and sub-alpine habitat or ecotones located on National Forest System lands. The Snake and Salmon Rivers, and the headwaters of the Missouri river, are three major watershed systems within the planning area.

In general, and as extrapolated from BLM survey and site location data, on average 15 percent of BLM-administered lands within the planning area have been inventoried, resulting in the recordation of 17,801 archaeological resources (**Table 3-54**), including prehistoric and historic sites. These data indicate that, on average, six to eight sites occur per square mile on BLM-administered lands within the planning area. Formal determinations of eligibility have not been completed for most sites in the planning area; however, recorded resources are treated as eligible until determined otherwise. Based on logged eligibility determinations for known sites on BLM-administered lands, roughly 14 percent of recorded sites have been determined to be eligible for listing on the NRHP. These data indicate that over 2,492 of the recorded sites on BLM-administered lands are eligible for the NRHP (**Table 3-54**).

The total extent of the cultural resource base is unknown for the National Forests in PPH or PGH, as the entire land base has not been inventoried. Survey coverage of GRSG habitat on the National Forests in the sub-region varies between 5 and 15 percent on most of the National Forests, with most surveys conducted for range allotment plans, wildlife habitat improvement projects, and commercial activities. The exact number of cultural resource

Table 3-54
Recorded Cultural Resource Surveys and Sites within GRSG Habitat in the Planning Area

Habitat	Idaho BLM Surveys	Idaho BLM Resources	Montana BLM Surveys	Montana BLM Resources	Planning Area Totals
PPH	2,057 surveys	12,517	596 surveys	723	718,292 acres
	692,778 acres		25,514 acres		13,240 Resources
PGH	1,226 surveys	4,561	538 surveys	564	763,170 acres
	739,277 acres		23,893 acres		5,125 Resources
Totals	**1,432,055 acres**	**17,078**	**49,407 acres**	**1,287**	**1,481,462 acres**
					18,365 Resources

Source: BLM GIS 2013

surveys and sites located on the National Forests changes as new surveys are conducted; therefore, providing exact numerical information would not be accurate.

Several well-known historic properties and districts occur in the planning area, as listed by field office in **Table 3-55**. These historic properties along with other eligible properties in the planning area would need evaluation for the effects of proposed undertakings for GRSG habitat improvement prior to implementation. Areas not previously inventoried would be subjected to full cultural resources analysis for ground-disturbing actions.

Table 3-55
Well Known Historic Properties within the Planning Area

Field Office	Key National Register Listed or Eligible Properties
Dillon	The Bannack National Historic Landmark Big Hole National Battlefield Everson Creek/Black Canyon Quarry District Muddy Creek Archaeological District Historic mining districts, including Argenta, Bannack, Blue Wing, Ermont, Melrose, Rochester, Silver Star, Utopia, and Virginia City
Burley	Castle Rocks Traditional Cultural Property City of Rocks National Historic Landmark Kelton Road
Bruneau	Camas and Pole Creeks Archaeological District Shoofly Rock Alignments Little Blue Table complex Five Fingers & Y "Buffalo" Jumps Hole in Rock Pictographs
Challis	Challis Springs Historic District Ima Mine White Knob Mining District Crystal City Double Springs Challis Bison Jump Bayhorse Mining District Donkey Hills horse trap

Table 3-55
Well Known Historic Properties within the Planning Area

Field Office	Key National Register Listed or Eligible Properties
Jarbidge	Toana Freight Wagon Road Devil Creek Complex Bruneau River/DryLakes Complex Browns Bench Obsidian Complex
Owyhee FO	Silver City Historic District Delamar Historic District
Salmon FO	Jaguar Cave Rag Town Buckhorn Mine Elmira Mine
Shoshone FO	Wilson Butte Cave Richfield Pumphouse
Upper Snake FO	Birch Creek Rockshelters Bobcat Cave Jackknife Cave Black Canyon Rock Art Sites

Source: BLM GIS 2013

The Forest Service identifies their significant historic properties through identification of Priority Heritage Assets (**Table 3-56**). These are, in essence, the most significant sites on the forest.

Table 3-56
Forest Service Priority Heritage Assets and Listed Properties within the Planning Area

National Forest	Number of Priority Heritage Assets	Listed Properties
Boise NF	34	Atlanta Ranger Station Rocky Bar Townsite
Beaverhead – Deerlodge NF	45	Historic Resources of Pony. Montana Canyon Creek Charcoal Kilns Butte Anaconda and Pacific Railway Historic District Birch Creek Civilian Conservation Corps Camp Lemhi Pass National Historic Landmark
Sawtooth NF	32	Pole Creek Guard Station Oregon National Historic Trail
Caribou-Targhee NF	10	Salt River Hydroelectric Plant Bishop Mountain Lookout Squirrel Meadow Guard Station Mesa Falls Lodge Hudspeth's Cutoff Oregon Trail
Salmon – Challis NF	58	Leesburg Townsite and Cemetery Lemhi Pass National Historic Landmark Custer Townsite

Cultural Use of the Planning Area

Three cultural areas are located within the planning area. Cultural areas have often been correlated to physiographic regions, with the planning area falling within the northern Great Basin, southeastern Plateau and western Plains regions. These cultural areas roughly correspond to distinctly different indigenous groups with different languages and moderately different resource-based economic systems and social structures. While these areas are associated to cultural groups and distinct tribes, cultural boundaries are fluid and overlapping. The main homelands and cultural traits of tribal groups that inhabit the region are generally defined by the cultural areas. Tribes that inhabit the region today and in the past include Great Basin groups such as the Shoshone-Paiute Tribes, Shoshone-Bannock Tribes, and the Eastern Shoshone; the Plateauan Nez Perce, Coeur d'Alene, Pend d'Oreille, Confederated Salish-Kootenai Tribes, Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Reservation; and Plains groups including the Blackfeet Tribe, Chippewa Cree Tribes, and the Crow.

Tribal members actively use BLM-administered and National Forest System lands for traditional resource procurement. The planning area contains populations of economically important plant and animal resources to tribal groups and individuals with certain species dominating depending on the region and the particular preferences of tribes or individuals. The sagebrush steppe and rocky upland flats are likely to support populations of plants such as bitterroot, biscuit root, Indian carrot, Indian rice grass and needle grass and other important root plants, such as camas in wetland areas. Modern traditional food plant gathering focuses almost entirely on root crops and wild fruits especially if they are found near the various reservations. Other types of cultural food plants such as seeds are not collected today to the degree they were collected in former times. Cultural plants for weaving appear to be collected wherever they are found. Medicinal cultural plants are undoubtedly collected today but practitioners of indigenous healing methods may not share the types of species used as readily as those collecting plants for subsistence and weaving. Rabbits, deer, elk, and fish are also important animal resources in the planning area.

The most common type of prehistoric site or cultural resource in Idaho and southwestern Montana is the lithic scatter. These types of sites contain mainly flaked stone (debitage) and/or stone tools left during the process of creating or repairing bifacial tools, such as arrow points, spear points, dart points, knives or scrapers. Lithic scatters often represent the remnants of prehistoric tool manufacturing/maintenance, locales created during subsistence pursuits, including hunting camps, animal butchering sites, or quarries. The lithic scatter comprises approximately 70 percent or more of recorded prehistoric sites in the planning area. Other site types may include habitation sites with remnants of house pits, house rings and hearths, as well as milling and storage equipment, such as pottery and basketry, and stone circles and wickiups in far eastern Idaho and Montana. Ceremonial sites may also exist in the planning area, but only a few may leave an archaeological signature, such as cairns, pits (e.g., eagle catching and fasting) or stacked rock of a vision quest site, or medicine wheels, and may require tribal consultation with practitioners and elders to identify. Other site types include trails, such as the Oregon National Historic Trail (NHT) and Nez Perce NHT, petroglyphs and pictographs, hunting drivelines and blinds, rock shelters, and caves.

While researchers in Idaho and Montana have developed varying cultural chronologies for prehistoric human use of the region, the general periods of use are similar and are discussed in very general terms here to outline prehistoric use of the planning area. The prehistoric cultural chronology for both Idaho and Montana include five general periods, the Early Prehistoric (Paleo-Indian), circa 13,500 to 8,000 years before the present, three sub-periods of the Middle Prehistoric 8,000 to 300 years before the present and the Protohistoric/Early Historic 300 to 150 years before the present. General overviews of archeological research in the region are provided in studies by Butler (1978, 1986), Meatte (1990), and Plew (2008), for southern Idaho, and Deaver and Deaver (1990), and Foor (1996) in southwestern Montana.

The most common type of historic cultural resource in the planning area relates to the mining of gold, silver, lead, and copper during the latter part of the 19th century and the early part of the 20th century. Such properties include mining camp remnants, ghost towns, miner's cabins, mining shafts, adits, mills, smelters, and an assortment of other mining related buildings, structures, and landscape features. Several comprehensive overviews of historic metal mining in Idaho and Montana have been produced in recent years, and provide the important context with which to evaluate such properties (McKay 2011; Godfrey 2003; Warhank 1999; Herbort 1995a, 1995b). Other historic period sites include transportation networks, trails, including the Oregon and California NHTs and associated side trails (e.g., Goodale's and Hudspeth Cutoffs) and the Lewis and Clark NHT, notable Lewis and Clark campsites, lumber mills, fur trapping shelters and cabins, homesteads, historic cemeteries, irrigation ditches, cow/sheep camps, sheepherder cairns, stage stops and trash dumps.

3.16.3 Trends

Federal lands will continue to be managed for the protection and preservation of cultural resources pursuant to regulation and policy. More concerted government-to-government consultation with tribes is occurring to address tribal resources and concerns. Prehistoric and historic resources are nonrenewable and overtime have been diminished by unauthorized collection, looting and cumulative project impacts. However, efforts have increased in public education and outreach creating awareness about our nation's cultural heritage and tribal interests. These efforts have improved public understanding and awareness, resulting in increased preservation of cultural resources.

3.17 Tribal Interests

The federal government has a unique and distinctive relationship with federally recognized Native American tribes as set forth in the Constitution of the United States, treaties, statutes, Executive Orders, judicial decisions, and agreements. This relationship is different from the federal government's relationship with state and local governments or other entities. The United States government has a trust responsibility to federally recognized Native American tribes that covers lands, resources, money, or other assets held by the federal government in trust and the ability of those tribes to exercise their tribal rights. The United States recognizes Native American tribes as sovereign nations. The tribes maintain active interests in the planning area. Tribal members use BLM-administered lands to gather plants or other native materials (e.g., stone for flint-knapping), hunt animals, and fish.

Native American treaties are negotiated contracts made pursuant to the Constitution of the United States and are considered the "supreme law of the land." They take precedence over any conflicting state laws because of the supremacy clause of the Constitution (Article 6, Clause 2). Treaty rights are not gifts or grants from the United States, but are bargained for concessions. These rights are grants-of-rights from the tribes rather than to the tribes. The reciprocal obligations assumed by the federal government and Native American tribes constitute the chief source of present-day federal Native American law.

The BLM, Forest Service, and other federal agencies have the responsibility to identify and consider potential impacts of project alternatives identified for GRSG planning on Native American trust resources, including fish, game, and plant resources, and on off-reservation, treaty-reserved fishing, hunting, gathering, and similar rights of access and resource use on BLM-administered lands. This also includes rights of access and use for ceremonial and other traditional cultural practices. The BLM, as lead federal agency, also has the responsibility to ensure that meaningful consultation and coordination concerning GRSG planning is conducted on a government-to-government basis with federally recognized tribes to consider tribal treaty rights and trust resources. BLM-administered lands retain social, economic, and traditional value for tribal people, as well as contemporary and ongoing spiritual and cultural uses. Through consultation with the tribes, the BLM is aware of their treaty and trust obligations and the tribes' desire to capitalize on opportunities that maintain or enhance resources critical to the exercise of treaty rights, traditional customs, subsistence, and cultural uses of the land.

BLM and Forest Service consultation with Native American tribes, as it pertains to tribal interests, treaty rights and trust responsibilities, is conducted in accordance with the following direction:

- Executive Order No. 13175 – Consultation and Coordination with Indian Tribal Governments, November 6, 2000
- Secretarial Order 3317 – Department of Interior Policy on Consultation with Indian Tribes, December 1, 2011
- Bureau Manual Handbook H-8120-1 – Guidelines for Conducting Tribal Consultation (Transmitted 12/03/04)
- The National Historic Preservation Act of 1966 as amended (PL 89-665; 80 Stat. 915; 16 USC 470
- Archaeological Resources Protection Act of 1979 (PL 96-95; 93 Stat. 721; 16 USC 47Oaa et seq.) as amended (PL 100-555; PL 100-588)
- American Indian Religious Freedom Act of 1978 (PL 95-431; 92 Stat. 469; 42 USC 19960
- Native American Graves Protection and Repatriation Act of 1990 (PL 101-601; 104 Stat. 3048; 25 USC 3001)

- Executive Order No. 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994
- Executive Order No. 13007 – Indian Sacred Sites, May 24, 1996
- Executive Order No. 13084 – Consultation and Coordination with Indian Tribal Governments, May 14, 1998
- Government-to-Government Relations with Native American Tribal Governments (Memorandum signed by President Clinton; April 29, 1994)
- Order No. 3175 – Departmental Responsibilities for Indian Trust Resources (Section 2 of Reorganization Plan No. 3 of 1950 – 64 Stat. 1262; November 8, 1993)
- USDA Department Regulations 1340-007 and 1350-002
- Forest Service Manual Direction FSM 1500
- Forest Service Handbook Direction FSH 1509

The planning area is within the traditional and historical use area of the Blackfeet Tribe, Chippewa Cree Tribe, Confederated Salish-Kootenai Tribes, Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Reservation, Crow Tribe, Eastern Shoshone Tribe, Nez Perce Tribe, Shoshone-Bannock Tribes, and the Shoshone-Paiute Tribes. These tribes lived, hunted, fished, gathered plant foods, buried their dead, and conducted religious ceremonies on lands within the planning area.

During the 1850s and 1860s, the United States negotiated treaties with some tribes in order to acquire lands for homesteading. The treaties that apply to the project area include the Crow Treaty, Fort Benton Treaty, Fort Bridger Treaty, Hell Gate Treaty, Nez Perce Treaty, and Walla Walla, Cayuse, and Umatilla Treaty. More information on these specific treaties is presented below. No tribal treaties were afforded to the Chippewa Cree and the Confederated Tribes of the Colville Indian Reservation. The Shoshone-Paiute Tribes of the Duck Valley Indian Reservation assert aboriginal rights to their traditional homelands; however, the Boise Valley Treaty of 1864 and the Bruneau Valley Treaty of 1866 were never ratified. The Shoshone-Paiute Tribes believe that title to these lands was not relinquished and they continue to claim title, rights, and interests associated with these lands.

On May 7, 1868, the Crow Tribe and the United States signed the Treaty with the Crows, 1868, referred to as the Crow Treaty (15 Stat. 649). In the Crow Treaty, the tribes relinquished ownership of thousands of acres of land to the United States. The treaty also guaranteed a permanent homeland for the Crow Tribe in southeastern Montana, which became known as the Crow Reservation. Article 4 of the treaty also states the tribe's right to "hunt on the unoccupied lands of the US so long as game may be found thereon."

On October 17, 1855, the Blackfeet and the United States signed the Blackfeet Treaty of Fort Benton, 1855, referred to as the Fort Benton Treaty (11 Stat. 657). In the Fort Benton Treaty, a great majority of the land was designated as common hunting ground for the

Blackfeet and neighboring tribes. In 1888, lands were set aside in north-central Montana for the Blackfeet Indian Reservation.

On July 3, 1868, the Eastern Band Shoshone and Bannock Tribes and the United States signed the Treaty with the Eastern Band Shoshoni and Bannack, 1868, referred to as the Fort Bridger Treaty (15 Stat. 673). In the Fort Bridger Treaty, the tribes relinquished ownership of approximately 20 million acres to the United States. The Eastern Band Shoshone were guaranteed a permanent homeland in western Wyoming, which has become known as the Wind River Indian Reservation. The Bannock and other bands of Shoshone were guaranteed a permanent homeland as well which ended up being in southeast Idaho, known as the Fort Hall Indian Reservation. Article 4 of the treaty also retains the tribes' rights to hunt, fish, and gather natural resources (including timber), and provides other associative rights necessary to effectuate these rights on the unoccupied lands of the United States.

On July 16, 1855, the confederated tribes of the Flathead, Kootenay (sic), and the Upper Pend d'Oreille Indians and the United States signed the Treaty with the Flatheads, etc., 1855, referred to as the Hell Gate Treaty (12 Stat. 975). The treaty guaranteed a permanent homeland for the confederated tribes in northwestern Montana, which has become known as the Flathead Reservation. Article 3 of the treaty also retains the tribes, "privilege of hunting, gathering roots, and berries, and pasturing their horses and cattle upon open and unclaimed lands."

On June 11, 1855, the Nez Perce Tribe and the United States signed the Treaty with the Nez Perces, 1855, referred to as the Nez Perce Treaty (12 Stat. 957). In the Nez Perce Treaty, the tribes relinquished ownership of millions of acres of land to the United States. The treaty also guaranteed a permanent homeland for the Nez Perce Tribe in northern Idaho, which became known as the Nez Perce Reservation. Article 3 of the treaty also asserts the tribe's right to "take fish at all usual and accustomed places in common with citizens of the [Washington] Territory; and of erecting temporary buildings for curing, together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land."

On June 9, 1855, the Walla Wallas, Cayuses, and Umatilla tribes and the United States signed the Treaty with the Walla Walla, Cayuse, etc., 1855 (12 Stat. 945). In the treaty, the tribes relinquished 6.4 million acres of land to the United States. The treaty also guaranteed a permanent homeland for the Walla Walla, Cayuse, Umatilla, and other tribes in northeastern Oregon, which became known as the Confederated Tribes of the Umatilla Indian Reservation. Article 1 of the treaty also retained the tribes' right to "hunt, gather roots and berries, and pasture stock on unclaimed lands of the US."

The BLM manages portions of these "unoccupied or unclaimed lands." Members of the tribes affected by this proposed action exercise their hunting, fishing, and gathering rights on federal lands outside of the boundaries of their reservations. Currently, there is little specific information available on the exact animal species hunted, plant species gathered, or locations

used by Native Americans exercising their treaty rights within the boundaries of the project area.

As described in **Section 3.11.1**, lands are retained in federal ownership unless, as a result of land use planning, is the BLM determines that disposal of certain parcels would serve the national interest. Land exchanges require site-specific NEPA analyses, at which time tribes are consulted to address their concerns and requests regarding specific parcels.

3.18 Visual Resources

Visual quality of western landscapes is an increasingly sensitive issue. Impacts on visual resources are identified as a significant issue to address in RMPs, Forest Plans, and major EISs such as the renewable energy and transmission programmatic environmental impact statements. The general public's increasing awareness of the vertical scale, footprint, character and visible prominence associated with utility scale renewable energy and transmission line development has increasing the need for Visual Resource Management (VRM).

3.18.1 Conditions on BLM-Administered Lands

The BLM manages scenic values using the VRM program. VRM policy was initially launched in 1976 in response to both NEPA requirements placed on federal land management, and FLPMA requirements for scenery resource inventory and management. The BLM developed the current VRM policy manual (M-8400) and handbooks (H-8410-1, H-8431-1) in the mid-1980s to guide the field offices through an objective and systematic program for managing scenery resources.

VRM requires that the BLM field offices complete a visual resource inventory of the lands under their management control. The visual resource inventory is a systematic process for determining the visual values on the BLM-administered lands. The inventory process has three parts: scenic quality evaluation, sensitivity level analysis and delineation of distance zones. Based on the combinations of the three, BLM-administered lands can then be categorized as Class I (most valued and highest quality of scenery) down to Class IV (areas of low scenic quality and sensitivity at most or all distance zones). These inventory classes represent the existing visual resources.

VRM provides a way to inventory and classify visual resources, describe characteristic landscapes, determine contrasts from proposed actions, and potential mitigation from impacts on visual resources.

BLM Handbook 8410 describes the three basic landscape characteristics used to indicate visual resources in VRM: 1) scenic quality; 2) sensitivity levels; and 3) distance zones. Scenic quality is a measure of the visual appeal of a tract of land. Areas can be sub-divided into Scenic Quality Rating Units of similar visual character on the basis of like physiographic characteristics, similar visual patterns, texture, color, and variety; and areas which have similar impacts from man-made modifications. The size of the Scenic Quality Rating Units may vary from several thousand acres to 100 or less, depending on landscape feature

similarities, and the desired inventory detail. Seven key factors determine the scenic quality of a unit: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. Resource specialists consider these factors when ranking units for scenic quality (A = high, B = medium, C = low).

Visual sensitivity is a measure of public concern for scenic quality. BLM-administered lands are assigned high, medium, or low sensitivity levels by analyzing various indicators of public concern, such as: type of user, amount of use, public interest, adjacent land uses, and special areas.

Sensitivity level rankings are not available for the planning area.

Landscapes can be divided into three distance zones based on relative visibility from travel routes or observation points. They are foreground-middleground, background, and seldom seen. The foreground-middleground zone includes areas seen from highways, rivers, or other viewing locations that are less than five miles away. The background zone is generally between 5 and 15 miles away. The seldom-seen zone includes areas usually hidden from view.

During the resource management planning process, the BLM determines how the visual landscape will be managed in the future. The VRM decisions that are made in the planning process result in areas being assigned a VRM class. VRM classes determine how much change will be allowed in the landscape. VRM Class I areas are managed to preserve the existing character of the landscape and allow for limited management activity. Class II allows for low levels of landscape change that do not attract attention of the casual observer. Class III allows for moderate changes to the landscape that may attract attention but are not dominant and Class IV areas allow for high levels of landscape change.

The BLM uses a VRM contrast rating system that addresses form, line, color and texture of the landscape to determine if proposed projects are in compliance with the designated visual resource management class.

These management classes are separate from the visual resource inventory classes and guide management irrespective of the underlying visual resource (i.e., areas that have an inventory Class II could be designated and managed as a VRM Class IV to allow for major changes in the landscape).

In the past, especially in older management framework plans, BLM field offices would often adopt the VRM inventory classes as the management class (**Table 3-57**). In some plans, the BLM did not make any decisions regarding the VRM classes. In such cases, the VRM inventory class has generally been used as the VRM class. A majority of the BLM-administered lands within the planning area do not have a current visual resource inventory.

Table 3-57
BLM Visual Resource Management Class Acres
(approximate for offices with designated VRM classes)

VRM Class	Class I	Class II	Class III	Class IV
Acres	510,924	2,058,432	3,983,572	2,052,936

Source: BLM GIS 2013

3.18.2 Conditions on National Forest System Lands

Forest Service Manual 2380.3 requires the agency to "inventory, evaluate, manage, and, where necessary, restore scenery as a fully integrated part of the ecosystems of National Forest System lands through the land and resource management and planning process." Scenery must be treated equally with other resources. The Forest Service developed a visual management system to provide a mechanism for inventory and analysis of landscape resources and the effects of land management activities on those resources.

The Forest Service established the Visual Management System in 1974 to inventory, evaluate, and manage scenic resources. The Visual Management System is described in Agriculture Handbook No. 462, National Forest Landscape Management. Using an established physiographic character type as a frame of reference, the Visual Management System determines the inherent scenic quality based on the different degrees of landscape variety within an area.

Inherent scenic quality is a measure of the natural landscape's scenic beauty based on attributes, such as landform, vegetation, water features, and rock formations. The basic assumption of the Visual Management System is that all landscapes have some inherent value, but those with the most variety and diversity have the greatest potential for "high scenic value." Three variety classes, designated A, B, and C, represent inherent scenic quality.

Sensitivity levels are identified in the Visual Management System and are defined as the measure of people's concern for the scenic quality of the landscape. Basically, all viewed landscape is rated for a level of sensitivity. Sensitivity levels are overlaid with distance zones to identify all the viewed and unseen landscape within a given area. The Visual Management System defines distance zones—that is, the distance from which a landscape is viewed—as foreground, middleground, and background. Distance zones are important in evaluating how change is perceived in the landscape because the closer the features in the landscape are to the viewer, the more pronounced they appear and the more detail is observed.

Visual quality objectives are determined in the Visual Management System by combining the sensitivity levels and scenic quality. Visual quality objectives are assigned to the landscape to describe the degree of acceptable alteration of the natural landscape. The Visual quality objectives classifications are Preservation, Retention, Partial Retention, Modification, and Maximum Modification. Preservation allows for ecological changes only, while Maximum Modification allows for landscape changes that may dominate the natural landscape character.

Scenery Management System

The Visual Management System process has been updated as the Scenery Management System, which is being incorporated into respective Forest Management Plans. The Scenery Management System is described in Landscape Aesthetics: A Handbook for Scenery Management (Forest Service 1995). Adoption of the Scenery Management System is to occur as each National Forest revises its LUP. For National Forests not currently undergoing the forest-plan revision process, or for those requiring extensive time for revision, application of the Scenery Management System will occur at the subforest or project level.

In general, the Scenery Management System differs from the Visual Management System in that it is integrated with ecosystem management and addresses landscape character, constituent preferences, scenic integrity, and landscape visibility as key aesthetic considerations. Landscape character describes the visual patterns of form, line, color, texture, dominance, scale, and diversity of elements in the landscape and the cultural attributes that make the landscape identifiable and give it a "sense of place." Constituent preferences convey the aesthetic experience of forest visitors, communities, and tourists and the significance of scenic quality to these user groups.

The Scenery Management System entails identifying the landscape character, visual sensitivity, and scenic integrity. The Scenery Management System provides an overall framework for the orderly inventory, analysis, and management of scenery. It is a tool for integrating the benefits, values, desires, and preferences regarding aesthetics and scenery for all levels of land management planning. The Scenery Management System also considers Concern Levels, which are a categorization of the importance of scenic resources to forest visitors.

Three concepts of the Scenery Management System are of key importance: (1) Scenic Attractiveness, (2) Landscape Character, and (3) Scenic Integrity. These concepts and landscape character are defined below:

Scenic Attractiveness is the primary indicator of the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landforms, rock outcrops and forms, waterforms, vegetation patterns, and cultural features. It reflects varying visual perception attributes of variety, unity, vividness, intactness, coherence, uniqueness, harmony, balance, and pattern. The frame of reference for scenic attractiveness (generally at the section scale) is landscape character.

Three levels of scenic attractiveness are identified during the scenery inventory process: (A) Distinctive, (B) Common or Typical, and (C) Undistinguished (FSM 2380, Landscape Management).

Landscape character is a combination of physical, biological, and cultural images that gives an area its visual and cultural identity and helps to define a sense of place. Landscape character provides a frame of reference from which to determine scenic attractiveness and to measure scenic integrity (FSM 2380, Landscape Management).

Scenic Integrity Objectives define the degrees of deviation from the landscape character that occur at any given time by using the process described in Agriculture Handbook 701, Landscape Aesthetics: A Handbook for Scenery Management (FSM 2380, Landscape Management). When discussing Scenic Integrity Objectives, the degree of alteration is measured in terms of visual contrast with the surrounding natural landscape. The objectives of each Scenic Integrity Objectives classification are included below:

- Very High – Management activities, except for very low visual-impact recreation facilities, are prohibited. Allows for ecological changes only. The existing landscape character and sense of place is expressed at the highest possible level.
- High – Management activities are not visually evident to the casual observer. The landscape character appears intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident. Changes in the qualities of size, amount, intensity, direction, pattern, etc., should not be evident.
- Moderate – Management activities remain visually subordinate to the characteristic landscape being viewed. Activities may repeat form, line, color, or texture common to the characteristic landscape but may not change in their qualities of size, amount, intensity, direction, pattern, etc.
- Low – Management activities begin to visually dominate the original characteristic landscape. However, activities of vegetative and landform alteration must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type. Structures must remain visually subordinate to the proposed composition.
- Very Low – Management activities of vegetative and landform alterations may dominate the characteristic landscape. While alterations may not borrow from attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles within or outside the landscape being viewed, they must be shaped and blended with the natural terrain so that elements such as unnatural edges, roads, landings, and structures do not dominate the composition.

Visual Management Classes

For both the BLM and Forest Service, where management decisions have been made to preserve and protect the visual characteristics of the landscape, these areas are likely to provide better habitat and protection for GRSG.

3.19 Lands with Wilderness Characteristics

The purpose and need of the National GRSG Planning Effort is limited to providing LUP guidance specific to the conservation of GRSG habitats. No decisions related to the management of lands with wilderness characteristics will be made as part of this planning effort; therefore, management of lands with wilderness characteristics is considered outside

the scope of this plan amendment process. Impacts on lands with wilderness characteristics from the alternatives being analyzed for this planning effort are presented in **Section 4.14**.

Section 201 of FLPMA and BLM Manual Section 6310 require the BLM to maintain on a continuing basis an inventory of all BLM-administered lands and their resources and other values, which includes wilderness characteristics. It also provides that the preparation and maintenance of the inventory shall not, of itself, change or prevent change of the management or use of BLM-administered lands. Regardless of past inventory, the BLM must maintain and update as necessary, its inventory of wilderness resources on BLM-administered lands. In some circumstances conditions relating to wilderness characteristics may have changed over time, and an area that was once determined to lack wilderness characteristics may now possess them. The BLM determines when it is necessary to update its wilderness characteristics inventory.

Under the following circumstances, the BLM considers whether to update a wilderness characteristics inventory or conduct a wilderness characteristics inventory for the first time:

1. The public or the BLM identifies wilderness characteristics as an issue during the NEPA process.
2. The BLM is undertaking a land use planning process.
3. The BLM has new information concerning resource conditions, including wilderness characteristics information submitted by the public that meets the BLM's minimum standard described in the Wilderness Characteristics Inventory Process section of this policy.
4. A project that may impact wilderness characteristics is undergoing NEPA analysis.
5. The BLM acquires additional lands.

There also may be other circumstances in which BLM will find it appropriate to update its wilderness characteristics inventory.

The original FLPMA Section 603 mandated inventories that were conducted during past RMP revisions and amendments and through other lands with wilderness characteristics inventory updates that have recently taken place. Inventories for wilderness characteristics were conducted between 2009 and 2013 and reflect the most up-to-date lands with wilderness characteristics baseline information for this planning area. For inventories that were conducted after 2011, findings were documented following guidance in BLM IM 2011-154, Requirement to Conduct and Maintain Inventory Information for Wilderness Characteristics and to Consider Lands with Wilderness Characteristics in Land Use Plans, which is now encompassed in BLM Manuals 6310 and 6320. Lands with wilderness characteristics inventories will be updated for any site-specific NEPA analyses that are conducted in the planning area. This will be to determine if a project will have impacts on lands with wilderness characteristics identified through previous or updated inventories.

The primary function of an inventory is to determine the presence or absence of wilderness characteristics. The BLM has completed lands with wilderness characteristics inventories in the Bruneau, Jarbidge, Salmon, Pocatello and Dillon Field Offices. Upper Snake has a draft inventory, and partial inventories have been completed in the Owyhee, Shoshone, and Burley Field Offices. The Pocatello Field Office found that it has no lands with wilderness characteristics. The Bruneau, Salmon, Owyhee, Burley, Shoshone, Dillon, and Jarbidge Field Offices found areas that do contain lands with wilderness characteristics.

Currently no Field Offices have taken their lands with wilderness characteristics through a complete planning process to determine how they will be managed. There are 390,800 acres of lands with wilderness character within the planning area boundary (**Table 3-58**).

Table 3-58
Lands with Wilderness Characteristics within the Planning Area

BLM Field Office	Acres
Bruneau	152,400
Burley	30,600
Dillon	65,100
Jarbidge	87,800
Owyhee	51,200
Salmon	2,620
Shoshone	580
Total	**390,800**

Source: BLM GIS 2015

Figure 3-16 shows BLM Lands with Wilderness Characteristics and Forest Service Roadless Areas in the planning area.

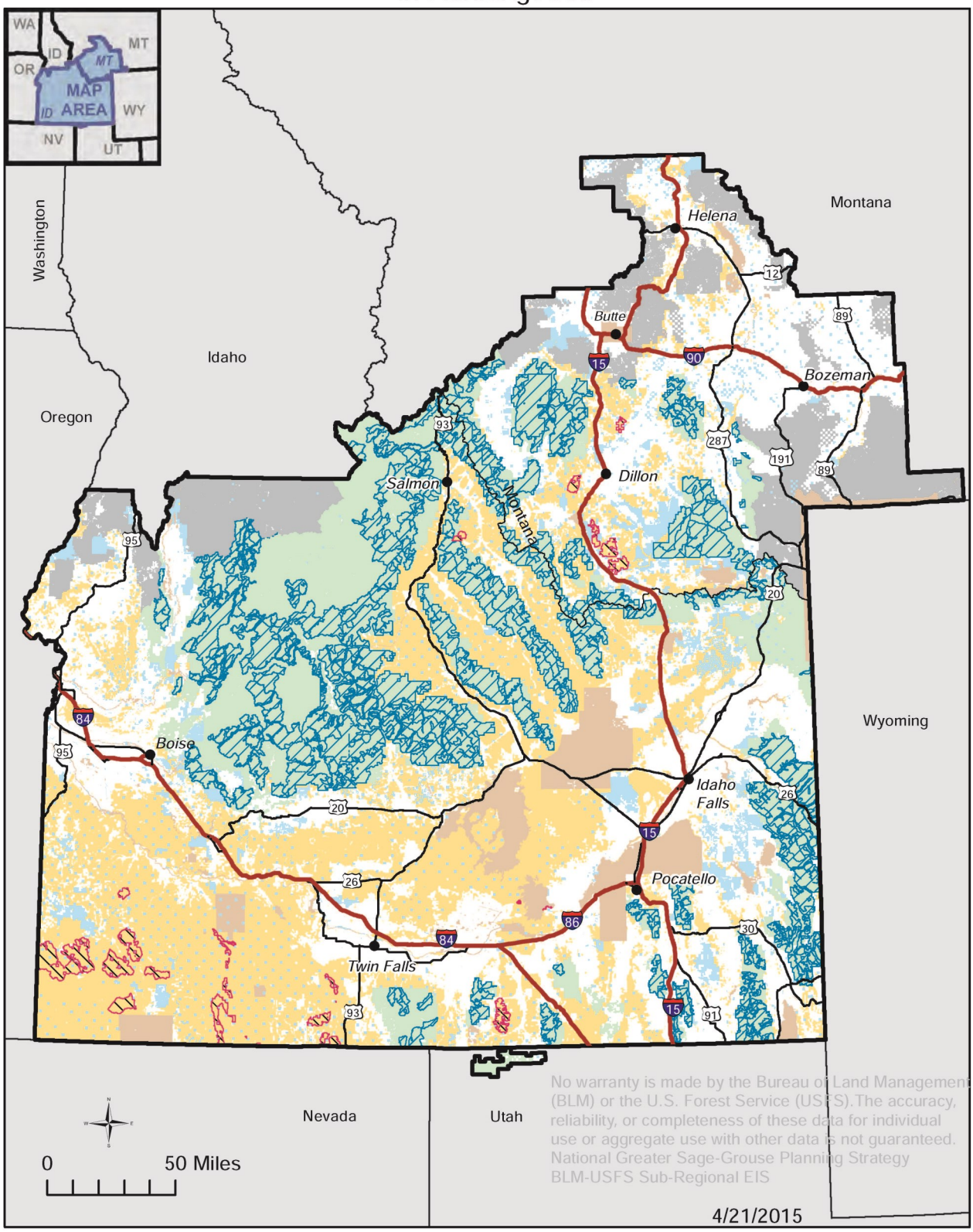
3.20 Forest Service Roadless Areas

Under 36 CFR 294, the Forest Service designated Roadless Areas in Idaho (**Figure 3-16**). The purpose of designating Roadless Areas is to conserve areas with wilderness attributes.

The Forest Service organizes Roadless Areas into five management classifications. These management classifications are; 1. Wild Land Recreation, 2. Special Areas of Historic or Tribal Significance, 3. Primitive, 4. Backcountry/Restoration, and 5. General Forest, Rangeland, and Grassland. Management of Roadless Areas is impacted by the management classification into which a Roadless Area falls. The Forest Service restricts activities such as road construction and reconstruction, timber cutting, and mineral activities to various degrees under each management classification in order to protect Roadless Areas (36 CFR 294).

There are approximately 1,695,900 acres of Roadless Areas on National Forest System lands.

Figure 3-16
Lands with Wilderness Characteristics and Roadless Areas in Planning Area



BLM- Lands with Wilderness Characteristics
USFS - Roadless Areas

Surface Management Agency
- Bureau of Land Management
- United States Forest Service
- Private
- State
- Other
- USFS Not Analyzed

3.21 Air Quality and Climate Change

Air resources include air quality, air quality related values, and climate change. As part of the decision-making process, the BLM and Forest Service consider and analyze the potential effects of agency and agency-authorized activities on air resources.

The US Environmental Protection Agency (USEPA) has the primary responsibility for regulating air quality, including seven criteria air pollutants subject to National Ambient Air Quality standards (NAAQS). Pollutants regulated under NAAQS include carbon monoxide (CO), lead, nitrogen dioxide (NO_2), ozone, particulate matter with a diameter less than or equal to 10 microns (PM_{10}), particulate matter with a diameter less than or equal to 2.5 microns ($PM_{2.5}$), and sulfur dioxide (SO_2). Two additional pollutants, nitrogen oxides (NOx) and volatile organic compounds (VOCs), are regulated because they form ozone in the atmosphere. Air quality is determined by pollutant emissions and emission characteristics, atmospheric chemistry, dispersion meteorology, and terrain. Air quality related values include effects on soil and water, such as sulfur and nitrogen deposition and lake acidification, and aesthetic effects, such as visibility.

In addition to USEPA regulations, air quality is also regulated by the Idaho Department of Environmental Quality, Air Quality Division. This agency develops state-specific regulations and issues air quality permits to emission sources.

Climate is the composite of generally prevailing weather conditions of a particular region through the year, averaged over a series of years. Climate change includes both historic and predicted climate shifts that are beyond normal weather variations.

3.21.1 Conditions within the Planning Area

Air Quality

Human Health. The USEPA classifies areas of the United States according to whether they meet the NAAQS. Areas that violate air quality standards are designated as nonattainment areas for the relevant criteria air pollutants. Areas that comply with air quality standards are designated as attainment areas for the relevant criteria air pollutants. Areas that have been reclassified from nonattainment to attainment are considered maintenance areas. The majority of the planning area is in attainment for all of the NAAQS.

The Air Quality Index is an USEPA health index that normalizes the various air pollutants in order to report one health level. The Air Quality Index is reported on a scale of 0 to 300, with 0 to 50 indicating good air quality; 51 to 100 indicating moderate air quality; 101 to 150 indicating air quality unhealthy for sensitive groups; 151 to 200 indicating unhealthy air quality; and 201 to 300 indicating very unhealthy air quality. Idaho Department of Environmental Quality publishes annual data summaries of Idaho's air quality that describe the Air Quality Index for all areas where air quality is monitored. The Air Quality Index is computed using the 24-hour average for $PM_{2.5}$ and the eight hour average for ozone.

Visibility and Regional Haze. There are no mandatory Class I areas on BLM-administered lands in the planning area; all designated wilderness areas on BLM-administered lands are Class II.

Climate Change

Climate change is defined by the Intergovernmental Panel on Climate Change (IPCC) as "a change in the state if the climate that can be identified (e.g., using statistical tests) by changes in the mean and/or the variability of its properties, and persist for an extended period, typically decades or longer. It refers to any change in climate over time whether due to natural variability to as a result of human activity (IPCC 2007)." Climate change is generally described on a global, national, or regional scale (state or multi-state), while greenhouse gas emissions in the United States are generally reported on a national or statewide scale.

Climate change is manifested in several ways, of which the most commonly analyzed are precipitation, temperature, and snowpack. Temperature and precipitation data for the planning area were retrieved form WestMap, a climate analysis and tracking tool that uses hydrologic basins as the mapping unit.

Greenhouse Gas Emissions

There are six greenhouse gases tracked by the IPCC, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydroflourocarbons (HFCs), perflourocarbons, and sulfur hexafluoride (SF_6; US Department of State 2010). Hydroflourocarbons, perflourocarbons, and sulfur hexafluoride are also known as high global warming potential due to their warming effectiveness (140 to 23,900 times the warming potential compared to carbon dioxide, depending on the compound) and their essential permanence in the atmosphere (remaining over 3,000 years; US Department of State 2010; USEPA 2012). Carbon dioxide, methane, and nitrous oxide have both natural and human generated sources, while high global warming potential gases are strictly human generated from various industrial processes. Greenhouse gas emissions are tracked as carbon dioxide equivalents (CO_2e) with one gram of carbon dioxide molecule counting as one and other molecules some multiple. Emissions are usually reported in teragrams or million metric tonnes, which are equivalent measures (USEPA 2010).

In the United States, USEPA tracks and reports greenhouse gas emissions; the Department of State also reports emissions.

Greenhouse gas emissions in the United States and in Idaho are similar in terms of percentages and in the main sources of the different gases. Idaho's greenhouse gases have remained about 1 percent of the US emissions from 1990 to 2010. Carbon dioxide is the primary greenhouse gas, comprising 83 to 85 percent of total emissions in the United States and in Idaho, with fossil fuel combustion for energy the primary sources of carbon dioxide. Methane production accounts for 7 to 10 percent of greenhouse gas emissions. In the United States, the primary source is natural gas systems, while in Idaho the primary source is enteric fermentation from domestic livestock. Nitrous oxide production accounts for 4 to 6 percent of the total emissions, slightly more in Idaho than in the United States with agricultural soil management the primary sources.

The high global warming potential gas comprises 1 to 3 percent of total emissions, more in Oregon than in the United States. The primary sources of hydroflourocarbons are the production of substitutes for ozone-depleting compounds, while aluminum production and semiconductor manufacturing are the primary sources of perflourocarbons and electricity transmission and distribution are the primary sources of sulfur hexafluoride.

The USEPA also estimates greenhouse gas sinks arising from land use, land use changes, and forestry. These sinks effectively reduce total greenhouse gas emissions by 15 to 16 percent nationally (USEPA 2010). The proportion in Idaho may be somewhat higher due to the productivity of Idaho forests.

3.21.2 Conditions on BLM-Administered and National Forest System Lands

Air Quality

Air quality conditions on BLM-administered and National Forest System lands are generally as described for the planning area.

3.21.3 Trends

Air Quality

Human Health. There are no clear long term trends in particulate emissions or the number of unhealthy days in the planning area; the lack of trends maybe due to a number of factors. There are no trends in the number of wildfires of acres burned or in the prescribed burning programs of BLM districts or National Forests; there are also no documented trends in the other particulate emitting sectors. The recent downturn in the economy may have resulted in temporary or permanent changes in the number or types of particulate emitters. The 2010 Clean Air status and trends network report indicates that 2009 was the lowest year on the 15 year recorded for several criteria pollutants, with increases in 2010 (USEPA 2012). That trend would be consistent with the recent downturn and slow recovery. In the western states as a whole, mean annual sulfur dioxide and particulate sulfur concentrations, total nitrate levels, total nitrogen deposition, and ozone concentrations have declined between 1996 and 2010 (Hand et al. 2011; USEPA 2012).

Climate Change

Certain precipitation, temperature, and snowfall trends within the planning area are similar, while others differ. The reasons for the observed differences are not clear. In the Oregon closed basins, precipitation has increased annually and in all four season, with the greatest seasonal increase in spring. Temperatures are also increasing, with greater increases in minimum temperature in winter and summer, consistent with observed national and global trends. Even temperatures are warming, above a threshold elevation that varies by mountain range; temperatures are still cold enough for winter precipitation to fall as snow. The combination of warmer temperatures and increased water vapor means that either more snow, snow with a higher moisture content, or some combination of these two factors will occur.

Projections

Karl et al. (2009) summarize the observed trends and projections in climate for the United States, with an updated report due in 2013. In the United States, average temperature has risen 2 degrees Fahrenheit (°F) in the last 50 years, compared to the 1961 to 1979 baseline, and is projected to increase by 2 to 3°F by the 2020s. Precipitation has increased by 5 percent in the last 50 years. Summers are expected to become drier over most of the United States, and winters are expected to become wetter. Spring is expected to become drier in the southern tier of the United States. The amount of rain falling in the heaviest storms has increased by 20 percent. This trend is expected to continue, with the greatest increase in the wettest places. In contrast, the amount of rain falling in the lightest storms has decreased, with the trend expected to continue. Extreme weather events such as heat waves and drought have become more frequent and more intense. Heat event frequency is expected to increase from 1 every 20 years to 1 every 2 to 3 years, with the number of days above 90°F increasing as well. Snowpack is expected to decrease, especially in the western United States. Cold season storm tracts should continue to shift northward, and the strongest winter storms are expected to become stronger and more frequent.

For the Pacific Northwest (Oregon, Washington, Idaho, and western Montana) the projections are somewhat different than for the United States as a whole (Mote and Salathe 2010). Most climate models tend to over predict precipitation as compared to observed means in the Pacific Northwest, so must be corrected in any projections. In the Pacific Northwest, temperatures are expected to increase by about 1 to 3 degrees by the 2020s, 1.5 to 5 by mid-century, and 3 to 10 by the end of the century. The greatest warming is expected in summer, and least is expected in spring. Annual precipitation is expected to change little, but summers should become drier and all other seasons possibly wetter. As with the United States as a whole and globally, the frequency of extreme precipitation events, heat waves, and droughts are expected to increase, and snowpack is expected to decrease.

Greenhouse Gas Emissions

Between 1990 and 2010, total us greenhouse gas emissions increased by 10.5 percent, averaging 0.5 percent per year (USEPA 2012). Carbon dioxide emissions, particularly those associated with energy production and use, are the dominant factor in United States trends. Emissions from fossil fuel combustion increased by 13.7 percent between 1990 and 2010, and increased by 3.5 percent between 2009 and 2010. Emissions tend to decline during economic slowdowns and increase during economic recoveries. Emissions in Idaho followed similar trends as the United States as a whole. The State Department (2010) projected greenhouse gas emissions for 2015 and 2020 based on data through 2007. Carbon dioxide emissions are expected to increase only slightly from 2007 levels, although the projected increase is considerably lower than the observed trend. All other emissions are expected to increase as well, with the least increase in methane and the most increase in the high global warming potential gases.

3.22 Social and Economic Conditions (Including Environmental Justice)

Due to the nature of social, economic, and environmental justice conditions, the social and economic analysis is based on a somewhat different area for analysis than is used for other

resources. Specifically, the Socioeconomic Study Area is made up of counties within the Idaho-Southwestern Montana sub-region that contain GRSG habitat and within which social and economic conditions might reasonably be expected to change based on alternative management actions. In addition, the BLM reviewed the need to include additional counties within a secondary study area that may not contain GRSG habitat but are closely linked from an economic and/or social perspective to counties that do contain habitat. This latter category includes what are sometimes called "service area" counties, or counties from which businesses operate that regularly provide critical economic services, such as recreational outfitting or support services for the livestock grazing sector, within the counties that contain habitat (METI Corp/Economic Insights of Colorado 2012). Including service area counties is important because a change in economic activity in a county containing habitat may result in changes in economic activity within service area counties as well.

The Primary Socioeconomic Study Area contains 27 counties in Idaho: Adams, Bear Lake, Bingham, Blaine, Bonneville, Butte, Camas, Caribou, Cassia, Clark, Custer, Elmore, Fremont, Gem, Gooding, Jefferson, Jerome, Lemhi, Lincoln, Madison, Minidoka, Oneida, Owyhee, Payette, Power, Twin Falls, and Washington; and two counties in Montana: Beaverhead and Madison. Each of these counties contains GRSG habitat. A secondary study area is included that contains an additional four counties in Idaho: Ada, Bannock, Boise, and Canyon; and two counties in Montana: Gallatin and Silver Bow. All of these counties are included in the secondary study area because of identified links to the primary area based on commuter patterns (OMB 2009; US Census Bureau 2012a).[3]

Table 3-59 shows the share of workers employed in a given county of the Primary and Secondary Socioeconomic Study Areas and that reside in the same county. It also shows other counties that provide labor to the selected primary or secondary study area.

Because any effects on the secondary study area would be indirect and sometimes focused on specific sectors, this chapter focuses primarily on the social and economic conditions of the Primary Socioeconomic Study Area and provides what is necessary to convey appropriate context for the impact analysis. The impact analysis in the next chapter will document potential effects on both the primary and the secondary study areas.

[3] Other counties considered but excluded from the secondary area were: (a) Valley County, Idaho, which has its main commuter tie to Ada County, Idaho, a secondary area county; (b) Franklin County, Idaho, which has its main commuter tie to Cache County, Utah, a county outside of the Socioeconomic Study Area; (c) Teton County, Idaho, which has its main commuter tie to Teton County, Montana, a county outside of the Socioeconomic Study Area; (d) Jefferson and Broadwater Counties, Montana, both of which have their main commuter ties to Lewis and Clark County, Montana, a county outside of the Socioeconomic Study Area; (e) Ravalli County, Montana, which has its main commuter tie outside the primary study area, is linked to the Salmon Challis National Forest or the Beaverhead Deerlodge National Forest, but is less likely to be affected by GRSG habitat management alternatives because GRSG habitat is concentrated in the southeast of Lemhi County, Idaho, at a distance from Ravalli County; (f) Deer Lodge and Park counties in Montana, whose main ties are to Silver Bow and Gallatin, counties of the secondary area; and (g) the counties of Missoula, Granite, and Powell (all in Montana) were not included in the secondary study are because the Beaverhead Deerlodge National Forest areas potentially affected by GRSG habitat management alternatives are located considerably to the south of those counties.

Table 3-59
Commuter Patterns in the Socioeconomic Study Area, 2010

Geographic Area of Employment	Live in Same Area of Employment	Other Counties Where Considerable Share of Workers Live
Primary Socioeconomic Study Area		
Adams County, Idaho	69.4%	Valley (7.3%), Idaho (6.7%), Washington (3.5%)
Bear Lake County, Idaho	77.2%	Ada (2.7%), Bannock (2.4%)
Bingham County, Idaho	64.3%	Bannock (10.2%), Bonneville (9.5%), Ada (2.0%)
Blaine County, Idaho	70.9%	Ada (6.7%), Lincoln (3.6%), Canyon (2.6%), Twin Falls (2.6%)
Bonneville County, Idaho	61.0%	Bingham (8.7%), Jefferson (8.3%), Bannock (6.3%), Madison (3.3%), Ada (2.5%)
Butte County, Idaho	21.5%	Bonneville (40.9%), Bingham (14.2%), Bannock (7.6%), Jefferson (6.5%), Custer (2.1%), Madison (2.0%)
Camas County, Idaho	58.5%	Gooding (10.9%), Blaine (8.3%), Twin Falls (5.7%), Jerome (3.0%), Ada (2.6%), Elmore (2.6%)
Caribou County, Idaho	56.8%	Bannock (11.4%), Bear Lake (9.8%), Ada (2.8%), Bonneville (2.8%), Franklin (2.8%)
Cassia County, Idaho	49.9%	Minidoka (23.8%), Twin Falls (6.8%), Ada (3.0%), Jerome (2.5%), Bonneville (2.1%)
Clark County, Idaho	51.4%	Bonneville (18.3%), Jefferson (18.3%), Bannock (2.2%), Madison (2.2%)
Custer County, Idaho	65.7%	Lemhi (13.6%), Butte (2.8%), Bonneville (2.7%), Ada (2.6%)
Elmore County, Idaho	69.7%	Ada (11.3%), Canyon (4.2%), Twin Falls (2.3%)
Fremont County, Idaho	70.5%	Madison (10.3%), Bonneville (6.2%), Jefferson (2.9%)
Gem County, Idaho	60.0%	Ada (15.4%), Canyon (10.7%), Payette (2.7%)
Gooding County, Idaho	48.5%	Twin Falls (17.3%), Jerome (10.7%), Lincoln (2.5%), Ada (2.3%)
Jefferson County, Idaho	51.6%	Bonneville (23.7%), Madison (8.4%), Bingham (2.4%)
Jerome County, Idaho	42.8%	Twin Falls (26.1%), Gooding (8.8%), Ada (3.3%), Cassia (2.4%), Minidoka (2.2%)
Lemhi County, Idaho	88.1%	Bonneville (2.1%)
Lincoln County, Idaho	49.7%	Twin Falls (14.2%), Gooding (12.4%), Jerome (7.0%), Minidoka (3.3%), Blaine (2.0%)
Madison County, Idaho	49.6%	Bonneville (12.9%), Fremont (12.2%), Jefferson (9.5%), Bannock (3.2%), Bingham (2.3%)
Minidoka County, Idaho	54.9%	Cassia (19.7%), Twin Falls (7.2%), Ada (2.3%), Bannock (2.2%)
Oneida County, Idaho	78.3%	Bannock (7.0%), Bonneville (2.5%), Box Elder, UT (2.1%)
Owyhee County, Idaho	42.2%	Canyon (31.5%), Ada (8.2%), Elmore (4.3%), Malheur, OR (2.4%),
Payette County, Idaho	51.3%	Canyon (14.4%), Malheur, OR (10.4%), Ada (8.0%), Washington (4.6%), Gem (3.4%)
Power County, Idaho	45.5%	Bannock (24.2%), Bingham (6.5%), Twin Falls (5.0%), Ada (2.7%)

Table 3-59
Commuter Patterns in the Socioeconomic Study Area, 2010

Geographic Area of Employment	Live in Same Area of Employment	Other Counties Where Considerable Share of Workers Live
Twin Falls County, Idaho	64.8%	Jerome (7.0%), Ada (5.2%), Gooding (2.6%), Cassia (2.6%), Canyon (2.5%), Minidoka (2.5%)
Washington County, Idaho	63.4%	Payette (6.3%), Ada (4.7%), Malheur, OR (4.5%), Canyon (4.5%)
Beaverhead County, Montana	62.1%	Lewis and Clark (6.9%), Yellowstone (6.7%), Silver Bow (5.7%), Gallatin (3.6%), Missoula (3.2%), Cascade (2.8%)
Madison County, Montana	67.8%	Gallatin (17.3%), Jefferson (3.0%)
Secondary Socioeconomic Study Area		
Ada County, Idaho	71.9%	Canyon (14.9%)
Bannock County, Idaho	68.6%	Bonneville (6.5%), Bingham (6.5%), Ada (2.8%), Twin Falls (2.2%)
Boise County, Idaho	77.0%	Ada (12.2%), Gem (3.4%), Canyon (2.5%)
Canyon County, Idaho	60.2%	Ada (24.7%), Owyhee (2.7%)
Gallatin County, MT	77.6%	Yellowstone (3.1%), Park (2.8%), Lewis and Clark (2.9%)
Silver Bow County, MT	64.8%	Missoula (5.8%), Deer Lodge (4.4%), Lewis and Clark (4.4%), Gallatin (3.5%), Jefferson (2.3%), Cascade (2.1%), Yellowstone (2.0%)

Source: US Census Bureau 2012a

Table 3-60 shows the planning documents that may be altered by the Idaho-Southwestern Montana sub-region planning process and the counties containing GRSG habitat within the area encompassed by those plans.

Table 3-60
BLM and Forest Service Plans, Management Units, and Counties within the Socioeconomic Study Area

Agency	Plan or Document	Management Unit	Counties
BLM	Birds of Prey National Conservation Area RMP (2008)	Four Rivers Field Office	Ada, Canyon, Elmore, Owyhee (Idaho)
	Bruneau RMP revision	Bruneau Field Office	Owyhee (Idaho)
	Challis RMP (1999)	Challis Field Office	Custer, Lemhi (Idaho)
	Craters of the Moon National Monument RMP (2006)	Shoshone Field Office	Blaine, Butte, Lincoln, Minidoka, Power (Idaho)
	Dillon RMP (2006)	Dillon Field Office	Beaverhead, Madison (Montana)
	Four Rivers RMP revision	Four Rivers Field Office	Ada, Adams, Boise, Canyon, Elmore, Gem, Payette, Valley, Washington (Idaho)

Table 3-60
BLM and Forest Service Plans, Management Units, and Counties within the Socioeconomic Study Area

Agency	Plan or Document	Management Unit	Counties
	Jarbidge RMP revision	Jarbidge Field Office	Elmore, Owyhee, Twin Falls (Idaho); Elko (Nevada)
	Lemhi RMP (1987)	Salmon Field Office	Lemhi (Idaho)
	Owyhee RMP (1999)	Owyhee Field Office	Owyhee (Idaho)
	Pocatello RMP revision	Pocatello Field Office	Bannock, Bear Lake, Bingham, Bonneville, Caribou, Cassia, Franklin, Oneida, Power (Idaho)
	Shoshone-Burley RMP revision	Shoshone Field Office, Burley Field Office	Blaine, Camas, Elmore, Jerome, Minidoka, Power (Idaho)
	Upper Snake RMP revision	Upper Snake Field Office	Blaine, Bingham, Bonneville, Butte, Clark, Fremont, Jefferson, Madison, Power, Teton (Idaho)
Forest Service	Beaverhead-Deerlodge National Forest Plan (2009)	Dillon, Wise River, Wisdom, Butte, Jefferson, Pintler, and Madison Ranger Districts	Granite, Powell, Jefferson, Deer Lodge, Silver Bow, Madison, Gallatin, Beaverhead (Montana)
	Boise National Forest Plan, as amended in 2010	Cascade, Lowman, Emmett, Mountain Home, and Idaho City Ranger Districts	Valley, Boise, Elmore, Gem, Ada (Idaho)
	Caribou National Forest Revised Forest Plan (2003)	Montpelier, Soda Springs, and Westside Ranger Districts	Caribou, Bonneville, Bannock, Bear Lake, Oneida, Franklin, Power (Idaho); Lincoln (Wyoming); Box Elder, Cache (Utah)
	Challis National Forest Plan (1987)	Challis, Lost River, Middle Fork, and Yankee Fork Ranger Districts	Custer, Lemhi, Butte, Valley, Blaine, Clark (Idaho)
	Curlew National Grassland Management Plan (2002)	Westside Ranger District	Oneida, Power (Idaho)
	Salmon National Forest Plan (1988)	Cobalt, Leadore, North Fork, and Salmon Ranger Districts	Idaho, Lemhi, Valley (Idaho)
	Sawtooth National Forest Revised Forest Plan (2003)	Fairfield, Ketchum, Minidoka, and Sawtooth National Recreation Area Ranger Districts	Blaine, Boise, Cassia, Camas, Custer, Elmore, Oneida, Power, Twin Falls (Idaho); Box Elder (Utah)
	Targhee National Forest Plan (1997)	Ashton/Island Park, Dubois, Palisades, and Teton Basin Ranger Districts	Bonneville, Butte, Clark, Fremont, Jefferson, Lemhi, Madison, Teton (Idaho); Lincoln, Teton (Wyoming)

Because of the nature of the Socioeconomic Study Area, the socioeconomic resources section has a slightly different format than the other resource analyses in the EIS. Rather than proceeding by field office and National Forest, the section provides information for the entire Socioeconomic Study Area except where the relevant information or data is tabulated for the specific geographic area of Field Office or National Forest. In addition, the analysis presents information about existing conditions and trends within the same section, because that is the common practice for analysis of social and economic conditions.

3.22.1 Indicators

Many of the indicators used to characterize social and economic conditions are quantitative, including population, demographics (e.g., age and gender breakouts), local industry (e.g., recreation and mineral development), employment, personal income, and presence of minority and low-income populations. Other indicators, especially for social conditions, are qualitative.

3.22.2 Existing Conditions and Trends

Social Conditions

Social conditions concern human communities, including towns, cities, and rural areas, and the custom, culture, and history of the area as it relates to human settlement, as well as current social values.

Population and Demographics

Table 3-61 shows current and historic populations in the Socioeconomic Study Area.

Table 3-61
Population Growth, 1990-2010

Geographic Area	1990	2000	2010	Percent Change (1990-2010)	Population as Percentage of Study Area Total (2010)
Adams County, Idaho	3,254	3,476	3,976	22.2	0.6
Bear Lake County, Idaho	6,084	6,411	5,986	-1.6	0.9
Bingham County, Idaho	37,583	41,735	45,607	21.4	6.6
Blaine County, Idaho	13,552	18,991	21,376	57.7	3.1
Bonneville County, Idaho	72,207	82,522	104,234	44.4	15.2
Butte County, Idaho	2,918	2,899	2,891	-0.9	0.4
Camas County, Idaho	727	991	1,117	53.6	0.2
Caribou County, Idaho	6,963	7,304	6,963	0.0	1.0
Cassia County, Idaho	19,532	21,416	22,952	17.5	3.3
Clark County, Idaho	762	1,022	982	28.9	0.1
Custer County, Idaho	4,133	4,342	4,368	5.7	0.6
Elmore County, Idaho	21,205	29,130	27,038	27.5	3.9
Fremont County, Idaho	10,937	11,819	13,242	21.1	1.9
Gem County, Idaho	11,844	15,181	16,719	41.2	2.4
Gooding County, Idaho	11,633	14,155	15,464	32.9	2.3
Jefferson County, Idaho	16,543	19,155	26,140	58.0	3.8

Table 3-61
Population Growth, 1990-2010

Geographic Area	1990	2000	2010	Percent Change (1990-2010)	Population as Percentage of Study Area Total (2010)
Jerome County, Idaho	15,138	18,342	22,374	47.8	3.3
Lemhi County, Idaho	6,899	7,806	7,936	15.0	1.2
Lincoln County, Idaho	3,308	4,044	5,208	57.4	0.8
Madison County, Idaho	23,674	27,467	37,536	58.6	5.5
Minidoka County, Idaho	19,361	20,174	20,069	3.7	2.9
Oneida County, Idaho	3,492	4,125	4,286	22.7	0.6
Owyhee County, Idaho	8,392	10,644	11,526	37.3	1.7
Payette County, Idaho	16,434	20,578	22,623	37.7	3.3
Power County, Idaho	7,086	7,538	7,817	10.3	1.1
Twin Falls County, Idaho	53,580	64,284	77,230	44.1	11.2
Washington County, Idaho	8,550	9,977	10,198	19.3	1.5
Beaverhead County, Montana	8,424	9,202	9,246	9.8	1.3
Madison County, Montana	5,989	6,851	7,691	28.4	1.1
Socioeconomic Study Area	420,204	491,581	562,795	33.9	100.0
Idaho	1,006,734	1,293,953	1,567,582	55.7	-
Montana	799,065	902,195	989,415	23.8	-
United States	248,790,925	281,421,906	308,745,538	24.1	-

Sources: US Census Bureau 1990, 2000, 2010a

Since 1990, the population in Idaho has increased by 55.7 percent, more than doubling the United States population growth rate (24.1 percent) during the same time period. In contrast, Montana's population has grown 23.8 percent, closer to the rate of the United States as a whole. Both states experienced a higher percentage of population growth from 1990 to 2000 than they did from 2000 to 2010. The Socioeconomic Study Area population growth also outpaced the United States, growing 36 percent between 1990 and 2010.

The "Communities of Place" section below provides more information about the character and history of the counties in the Socioeconomic Study Area. **Table 3-62** shows age and gender characteristics of the population in each county of the Socioeconomic Study Area.

The Socioeconomic Study Area, Idaho, Montana, and the United States all generally follow the same trend in gender, with approximately half of the population being female. Of the counties within the Socioeconomic Study Area, Clark County, Idaho (44.7 percent) and Custer County, Idaho (46.9 percent) have the lowest percentages of women. And only one county, Madison County, Idaho (51.6 percent) has a higher percentage of women than the nation.

Table 3-62
Demographic Characteristics, Share in Total Population (Percent), 2010

Geographic Area	Women	20 to 64 Years of Age	Under 20 Years of Age	65 Years of Age or Older
Adams County, Idaho	48.7	58.2	21.0	20.8
Bear Lake County, Idaho	50.4	52.1	29.5	18.4
Bingham County, Idaho	49.8	52.8	35.8	11.4
Blaine County, Idaho	49.1	62.4	26.0	11.6
Bonneville County, Idaho	50.1	55.2	33.9	10.9
Butte County, Idaho	48.6	52.5	30.0	17.5
Camas County, Idaho	47.9	61.1	23.0	15.9
Caribou County, Idaho	49.6	53.3	30.9	15.8
Cassia County, Idaho	49.4	51.1	36.0	12.9
Clark County, Idaho	44.7	53.7	33.2	13.1
Custer County, Idaho	46.9	60.1	21.2	18.7
Elmore County, Idaho	48.3	58.9	31.1	10.0
Fremont County, Idaho	47.4	52.2	33.9	13.9
Gem County, Idaho	50.5	54.4	27.0	18.6
Gooding County, Idaho	48.3	52.6	32.3	15.1
Jefferson County, Idaho	49.8	52.2	38.2	9.6
Jerome County, Idaho	48.9	54.7	34.1	11.2
Lemhi County, Idaho	49	56.1	21.7	22.2
Lincoln County, Idaho	48.3	53.9	35.1	11.0
Madison County, Idaho	51.6	59.1	35.3	5.6
Minidoka County, Idaho	49.4	53.0	32.2	14.8
Oneida County, Idaho	48.9	51.1	32.2	16.7
Owyhee County, Idaho	48.9	54.1	31.9	14.0
Payette County, Idaho	50.5	53.3	31.4	15.3
Power County, Idaho	48.5	53.9	34.0	12.1
Twin Falls County, Idaho	50.6	55.7	30.4	13.9
Washington County, Idaho	50.8	52.4	27.1	20.5
Beaverhead County, Montana	48.8	58.9	24.2	16.9
Madison County, Montana	48	59.6	19.4	21.0
Socioeconomic Study Area	49.5	56.7	30.8	12.5
Idaho	49.9	57.2	30.4	12.4
Montana	49.8	59.9	25.3	14.8
United States	50.8	60.1	26.9	13.0

Source: US Census Bureau 2010b

Idaho and the Socioeconomic Study Area have a younger population than the nation: each having 57 percent of the population between 20 and 64 years of age compared to 60 percent of the national population, and more than 30 percent of the population less than 20 years of age compared to only 27 percent of the national population. In contrast, Montana has a slightly older population than the nation, having nearly 15 percent of the population being 65 years or older compared to only 13 percent of the national population. Of the counties within the Socioeconomic Study Area, Bingham County, Idaho; Cassia County, Idaho;

Jefferson County, Idaho; Jerome County, Idaho; Lincoln County, Idaho; Madison County, Idaho; and Power County, Idaho, have the highest percentages of residents under the age of 20, all at least 7 percentage points higher than the national average (60.1 percent). In contrast, Adams County, Idaho; Lemhi County, Idaho; Washington County, Idaho; and Madison County, Montana, have the highest percentages of residents over the age of 65, all at least 7 percentage points higher than the national average (13 percent).

Interest Groups and Communities of Place

There is a range of interest groups in the Socioeconomic Study Area, including groups that focus advocacy on resource conservation and others that focus advocacy on resource uses such as livestock grazing. There are also groups that represent coalitions of interest groups. A list of interest groups that have requested to receive a copy of the LUPA/DEIS are provided in Chapter 5. The types of interest groups identified within the Socioeconomic Study Area include the following: federal agencies, state agencies, county agencies, local agencies, congressional representatives, local representatives, academic institutions, civic organizations, local chambers of commerce, environmental groups, land conservation groups, outdoors groups, local school boards, farm associations, Native American groups and Tribal Governments, and various business groups. Specific types of business interest groups identified include the following: real estate, tourism, mineral extraction, farms/ranches, textile manufacturers, livestock growers, and news media.

The Socioeconomic Study Area includes various communities of people who are bound together because of where they reside, work, visit, or otherwise spend a continuous portion of their time. Stakeholder groups currently benefitting from BLM-administered and National Forest System lands within the Socioeconomic Study Area include those associated with agriculture and livestock production; forest products; mining; travel, tourism, and recreation; and local residents (see, for example, BLM 2006a and 2008; Forest Service 2003).

A common perception is that there is a dichotomy of values and attitudes between stakeholder groups in the Socioeconomic Study Area between individuals or groups who feel that resource conservation and nonconsumptive uses of BLM-administered lands are more important than benefits derived from consumptive type uses, such as livestock grazing, timber harvesting, and mining. At a more nuanced scale, however, personal attitudes, interests, and values are quite complex, and these groupings are not mutually exclusive. The high value that residents and visitors place on small town character, private property rights, low population density, scenery and landscape, outdoors and open space, the rural lifestyle, fishing, and hunting are commonly held throughout the Socioeconomic Study Area (BLM 2006a and 2008; Forest Service 2003). These values are commonly expressed within individual county land use plans, and were also expressed by attendees at both scoping meetings and the Economic Strategies Workshop that BLM and Forest Service held in Twin Falls, Idaho, in June 2012.

A unifying theme expressed by residents of the Socioeconomic Study Area – including in previous planning processes – is the concern for the preservation of rural characteristics and values. For example, a shift toward larger, more mechanized agricultural operations, as well as the increasing diversification of local economies, have challenged traditional ways of life in

many communities. These changes are evident in the declining number of mid-sized farms and the number of workers employed in agriculture and agriculture-based industries (Blaine County 1994; Power County 2009; Headwaters Economics 2012; US Department of Commerce 2012a). Nevertheless, farming and ranching remain important parts of the economy, society, and culture across the Socioeconomic Study Area.

In some areas, particularly those with scenic and recreational amenities, farmlands and ranches are being sold and used for recreation purposes or subdivided for homesites. This phenomenon is part of a larger trend in which many rural communities in the western United States have witnessed "migration turnaround," a reversal of the rural-to-urban migration that characterized much of the United States prior to the 1970s. Many rural areas are now experiencing a significant increase in population after decades of stability or decline (BLM 2006a). In response to recent commercial and industrial expansion and the associated demand for affordable, diversified housing, many counties are encouraging infill development and other strategies to prevent the loss of agricultural lands and maintain the rural character of their communities (Caribou County 2006).

Despite population increases across most of the study area, some rural areas continue to lose population (Idaho Department of Labor 2011). This is due, in part, to the out-migration of young people and aging of the population (Idaho Commerce & Labor 2005). In contrast to communities where in-migration is occurring, residents of these communities may be more concerned about the economic survival of their communities. Multiple use management of and access to BLM-administered lands, which comprise a large portion of lands in many counties, are cited as paramount concerns in these areas (BLM 2006a). Residents expressed some similar themes during public scoping and the June 2012 Economic Strategies Workshop for this planning effort (BLM and Forest Service 2012; BLM 2012b). Comments received from these outreach efforts came from nonprofit or citizen groups; local, state and federal agencies; the commercial sector and members of the general public. These comments strongly supported maintaining or expanding access to BLM-administered lands for grazing and recreational purposes. Many expressed concern that placing additional constraints on these activities might create economic hardship within their communities and alter traditional cultural values and lifestyles. Additionally, some argued that constraints on livestock grazing would exacerbate existing trends of conversion of ranch lands to agricultural and residential uses, perhaps with the unintended consequence of decreasing open space and wildlife habitat. Other issues of concerns cited by residents include the management of invasive species, fire and fuels, and whether BLM-administered lands should be opened to wind energy development.

Economic activity and land use patterns in the Socioeconomic Study Area have been strongly influenced by the region's dramatic geography. Agriculture, timber harvesting, and mining have historically defined the character and lifestyle of much of the Study Area. Within the past two decades, however, increasing urbanization and the growth of service sector industries, including retail trade, local government, and health care, have been powerful agents of change on the landscape and local cultures (Headwaters Economics 2012; US Department of Commerce 2012a).

The rolling hills and valleys of the Northern Basin and Range, which stretches across much of southern Idaho, provide ample opportunities for livestock grazing with occasional croplands, and contains all or substantial parts of Caribou, Cassia, Oneida, Owyhee, Power, and Twin Falls Counties (McGrath et al. 2002). The region is still heavily dependent on agriculture and agriculture-based industries, despite stagnant or declining employment in these sectors (Headwaters Economics 2012; US Department of Commerce 2012a). Twin Falls is the most populous city in the Socioeconomic Study Area and the seventh largest city in the State of Idaho, and serves as the major commercial and industrial hub of south-central Idaho's Magic Valley region, so named due to the transformation of the basin into productive farmland through the construction of extensive irrigation systems in the early 1900s. Twin Falls is also the principal city of the Twin Falls, Idaho Micropolitan Statistical Area, which includes Jerome and Twin Falls Counties.

The broad Snake River Plain that arcs just north of Idaho's Basin and Range region contains all or substantial parts of Ada, Adams, Bingham, Canyon, Elmore, Gem, Gooding, Jefferson, Jerome, Lincoln, Madison, Minidoka, Payette, and Washington Counties. Potatoes, sugar beets, alfalfa, grains, and vegetables are grown in areas where irrigation and soil depth are suitable for crop production (McGrath et al. 2002). Other prominent land uses include livestock grazing, cattle feedlots, and dairy operations. The barren, lava-field landscape of Craters of the Moon National Monument is a popular visitor attraction showcasing the region's unique geologic history. Upward trends in population growth, fueled by expansion in the retail trade and small manufacturing sectors over the past decade, have left some school districts and governmental service struggling to provide maintain adequate levels of service (Jefferson County 2005).

Butte, Camas, Clark, Custer, and Lemhi Counties are located in Idaho's Rocky Mountain region, which rises sharply from the northern edge of the Snake River Plain. Here, timber harvesting, grazing, and recreation are the predominant land uses (McGrath et al. 2002). The counties of Bonneville, Butte, Caribou, and Fremont in Idaho and Beaverhead, and Madison in southwestern Montana also offer abundant opportunities for outdoor recreation. Popular activities include fishing, hunting, hiking, horseback riding, off-highway vehicle use, skiing, and sightseeing, which attract residents, as well as visitors from all areas of the United States (BLM, 2005b, 2008). In many communities, growth in tourism and recreation industries has largely outpaced historical land uses. The in-migration of residents who purchase smaller ranches or farms, but do not depend on the economic return from these activities as their primary source of income, has created conflict with long-time rural residents (BLM 2008).

Bear Lake County, which occupies the far southeastern corner of Idaho and the Wasatch and Uinta Range, has remained largely rural but serves also as an important destination for tourists and recreationists.

County Land Use Plans

BLM-administered, National Forest System, and other federal lands in the Socioeconomic Study Area are intermingled with state and private lands. County governments have land use planning responsibility for the private lands located within their jurisdictions. County-level LUPs (also referred to as Comprehensive plans or Growth Policies) were identified for 26 of

the 29 counties within the Socioeconomic Study Area (Adams County, 2006; Bingham County, 2005; Blaine County, 1994; Bonneville County, 2004; Camas County, 2006; Caribou County, 2006; Cassia County, 2006; Clark County, 2010; Custer County, 2006; Elmore County, 2004; Fremont County, 2008; Gem County, 2010; Gooding County, 2010; Jefferson County, 2005; Jerome County, 2006; Lemhi County, 2007; Lincoln County, 2008; Madison County, 2008; Minidoka County, 2001; Owyhee County, 2010; Payette County, 2006; Power County, 2009; Twin Falls County, 2008; Washington County, 2010; Beaverhead County, 2009; Madison County, 2006). Of the counties with identified LUPs, all had some form of economic development component, such as promotion of specific industrial sectors and natural resource use.

Economic Conditions

Economic analysis is concerned with the production, distribution, and consumption of goods and services. This section provides a summary of economic information, including trends and current conditions. It also identifies and describes major economic sectors in the Socioeconomic Study Area that can be affected by management actions. Most likely affected would be those economic activities that rely or could rely on BLM-administered lands, such as recreation and livestock grazing.

Economic Sectors, Employment, and Personal Income

The distribution of employment and income by industry sector within the Socioeconomic Study Area is summarized in **Table 3-63** below. See **Appendix Z** for equivalent data by county.

Table 3-63
Employment by Sector within the Socioeconomic Study Area

	Absolute			Percentage of Total		Percent Change 2001-2010
Socioeconomic Study Area	**2001**	**2010**	**Change 2001-2010**	**2001**	**2010**	
Total Employment (number of jobs)	**281,346**	**309,620**	**28,274**	**100.00**	**100.00**	**10.05**
Non-services related	**72,614**	**67,772**	**-4,842**	**25.81**	**21.89**	**-6.67**
Farm	28,028	25,639	-2,389	9.96	8.28	-8.52
Forestry, fishing, & related activities	2,613	2,938	325	0.93	0.95	12.44
Mining (including oil and gas)	777	960	183	0.28	0.31	23.55
Construction	19,432	18,913	-519	6.91	6.11	-2.67
Manufacturing	21,764	19,322	-2,442	7.74	6.24	-11.22
Services related	**142,525**	**171,386**	**28,861**	**50.66**	**55.35**	**20.25**
Utilities	374	762	388	0.13	0.25	103.74
Wholesale trade	11,080	11,115	35	3.94	3.59	0.32
Retail trade	31,535	32,653	1,118	11.21	10.55	3.55
Transportation and warehousing	5,787	9,361	3,574	2.06	3.02	61.76

Table 3-63
Employment by Sector within the Socioeconomic Study Area

Socioeconomic Study Area	Absolute			Percentage of Total		Percent Change 2001-2010
	2001	2010	Change 2001-2010	2001	2010	
Information	2,973	3,761	788	1.06	1.21	26.51
Finance and insurance	7,325	10,547	3,222	2.60	3.41	43.99
Real estate and rental and leasing	7,906	12,986	5,080	2.81	4.19	64.25
Professional and technical services[1]	16,507	19,380	2,873	5.87	6.26	17.40
Management of companies and enterprises	480	361	-119	0.17	0.12	-24.79
Administrative and waste services	10,062	9,350	-712	3.58	3.02	-7.08
Educational services	1,273	1,792	519	0.45	0.58	40.77
Health care and social assistance	14,042	19,239	5,197	4.99	6.21	37.01
Arts, entertainment, and recreation	3,593	5,247	1,654	1.28	1.69	46.03
Accommodation and food services	16,691	18,404	1,713	5.93	5.94	10.26
Other services, except public administration	12,897	16,428	3,531	4.58	5.31	27.38
Government	**42,027**	**43,854**	**1,827**	**14.94**	**14.16**	**4.35**
Federal	10,984	10,670	-314	3.90	3.45	-2.86
State	3,484	3,425	-59	1.24	1.11	-1.69
Local	27,559	29,759	2,200	9.80	8.6	7.98

Sources: US Department of Commerce 2012a

[1]Professional and technical services activities require a high degree of expertise and training. Example activities include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; and veterinary services.

Table 3-64
Labor Income by Sector within the Socioeconomic Study Area (2010 dollars)

Socioeconomic Study Area	Absolute (Millions)			Percentage of Total[1]		Percent Change 2001-2010
	2001	2010	Change 2001-2010	2001	2010	
Total Labor Earnings[2]	**10,272**	**$11,793**	**$1,521**	**100.00**	**100.00**	**14.81**
Non-services related	**$2,990**	**$2,947**	**-$43**	**29.11**	**24.99**	**-1.44**
Farm	$1,081	$1,215	$134	10.52	10.30	12.40
Forestry, fishing, & related activities	$71	$96	$25	0.69	0.81	35.21
Mining (including oil and gas)	$33	$38	$5	0.32	0.32	15.15
Construction	$851	$693	-$158	8.28	5.88	-18.57
Manufacturing	$954	$905	-$49	9.29	7.67	-5.14
Services related	**$4,612**	**$5,712**	**$1,100**	**44.90**	**48.44**	**23.85**
Utilities	$24	$70	$46	0.23	0.59	191.67
Wholesale trade	$467	$602	$135	4.55	5.10	28.91
Retail trade	$809	$806	-$3	7.88	6.83	-0.37
Transportation and warehousing	$267	$422	$155	2.60	3.58	58.05
Information	$107	$140	$33	1.04	1.19	30.84
Finance and insurance	$224	$290	$66	2.18	2.46	29.46
Real estate and rental and leasing	$138	$159	$21	1.34	1.35	15.22
Professional and technical services	$1,070	$1,293	$223	10.42	10.96	20.84
Management of companies and enterprises	$34	$17	-$17	0.33	0.14	-50.00
Administrative and waste services	$178	$202	$24	1.73	1.71	13.48
Educational services	$22	$28	$6	0.21	0.24	27.27
Health care and social assistance	$557	$827	$270	5.42	7.01	48.47
Arts, entertainment, and recreation	$120	$98	-$22	1.17	0.83	-18.33
Accommodation and food services	$270	$330	$60	2.63	2.80	22.22
Other services, except public administration	$325	$428	$103	3.16	3.63	31.69
Government	**$1,924**	**$2,208**	**$284**	**18.73**	**18.72**	**14.76**
Federal	$684	$841	$157	6.66	7.13	22.95
State	$172	$179	$7	1.67	1.52	4.07
Local	$1,068	$1,188	$120	10.40	10.07	11.24
Non-labor Income[3]	**$5,939**	**$8,250**	**$2,311**	**41.71**	**47.14**	**38.91**
Dividends, interest, and rent	$2,719	$3,325	$606	19.10	19.00	22.29

Table 3-64
Labor Income by Sector within the Socioeconomic Study Area (2010 dollars)

	Absolute (Millions)			Percentage of Total[1]		Percent Change 2001-2010
Socioeconomic Study Area	**2001**	**2010**	**Change 2001-2010**	**2001**	**2010**	
Personal current transfer receipts[4]	$2,112	$3,516	$1,404	14.83	20.09	66.48
Contributions to government social insurance[5]	$1,108	$1,409	$301	7.78	8.05	27.17
Total Personal Income[6]	**$14,239**	**$17,501**	**$3,262**	**100.00**	**100.00**	**22.91**

Sources: US Department of Commerce, 2012a. Values reported in 2001 dollars were converted to 2010 dollars using the Consumer Price Index (Bureau of Labor Statistics [BLS] 2012a).
[1]Industry earnings are reported as a share of total labor earnings. Dividends, interest, and rent; personal current transfer receipts; and contributions to government social insurance are reported as a share of personal income.
[2]Total labor earnings are reported by place of work.
[3]Non-labor income includes dividends, interest, and rent and personal current transfer receipts.
[4]"Personal current transfer receipts" are benefits received by persons for which no current services are performed. They are payments by government and business to individuals and institutions, such as retirement and disability insurance benefits.
[5]"Contributions for government social insurance" consists of payments by employers, employees, the self-employed, and other individuals who participate in the following government programs: Old-age, Survivors, and Disability Insurance; Medicare; unemployment insurance; railroad retirement; pension benefit guarantee; veterans' life insurance; publicly-administered workers' compensation; military medical insurance; and temporary disability insurance (US Department of Commerce 2012b).
[6]Total personal income is reported by place of residence.

With respect to employment by industry sector, the services-related sector accounted for the largest share (55.4 percent) of total employment in the Socioeconomic Study Area in 2010. This reflects a growth rate of 20.3 percent from 2001 (compared to an overall employment growth rate for all sectors of 10.1 percent from 2001). Compared to the services related sector, the non-services related sector and the government sector represented lower levels of employment, 21.9 percent and 14.2 percent, respectively. At the industry level, retail trade (10.6 percent) accounted for the largest share of employment of all industries in the Socioeconomic Study Area in 2010, followed by local government (9.6 percent), professional and technical services (6.3 percent), and health care and social assistance (6.2 percent). Although mining contributed a relatively small share of total employment within the study area in 2010, a notable proportion of total employment within Caribou County (21 percent) and Custerlark County (32 percent) came from the mining industry, according to estimates from Headwaters Economics (2013). The industries that demonstrated the largest growth between 2001 and 2010 were utilities, with an increase of 103.7 percent; real estate rental and leasing, with an increase of 64.3 percent; and transportation and warehousing, with an increase of 61.8 percent. The industries with greatest decrease in employment levels from 2001 to 2010 were management of companies and enterprises (decrease of 24.8 percent), manufacturing (decrease of 11.2 percent), and farming (decrease of 8.5 percent).

Appendix Z provides county-level employment figures. The greatest difference in industry sector proportion between counties in 2010 was in the professional and technical services industry. Professional and technical services contributed a low 1.5 percent of total employment in Power County, Idaho, but a much larger percentage in Butte County, Idaho (83.8 percent). Other industries also showed large variation in shares of employment across counties, including the farm industry (from 1.5 percent in Blaine County, Idaho, to 25.6 percent in Gooding County, Idaho) and the manufacturing industry (from 0.6 percent in Butte County, Idaho, to 24.8 percent in Power County, Idaho). Other counties identified as having relatively high employment shares in the farming industry include Lincoln County, Idaho (22.5 percent); Oneida County, Idaho (22.6 percent); and Owyhee County, Idaho (25.3 percent). The federal government industry also showed a high level of variation in shares across counties (from 1 percent in Blaine County, Idaho, to 35.5 percent in Elmore County, Idaho). However, in 24 of the 29 counties included in the Socioeconomic Study Area, the federal government contributed less than 5 percent of employment. Recreation-related economic activity, including the arts, entertainment, and recreation; retail trade; and accommodation and food services industries, varied across the counties (by 8.4 percentage points, 12.7 percentage points, and 16.7 percentage points, respectively). Note that these sectors are influenced not only by recreation but also by many other industries. See **Appendix Z** for individual county detail.

With respect to labor earnings, the services-related sector accounted for the largest share (48.4 percent) of labor earnings in the Socioeconomic Study Area in 2010, followed by the non-services related sector (25.0 percent) and the government sector (18.7 percent). In 2010, the individual industries that generated the largest shares of labor earnings included the professional and technical services industry (11.0 percent), farming (10.3 percent) and the local government industry (10.1 percent). Labor earnings associated with utilities almost tripled during the 2001-2010 period. Other sectors showing strong trends of growth since 2001 include transportation and warehousing (58.1 percent) and health care and social assistance (48.5 percent). During the same time period, management of companies and enterprises, construction and recreation experienced the largest decline in earnings of all the industry sectors (declines of 50.0 percent, 18.6 percent and 18.3 percent, respectively).

Appendix Z provides county-level labor earnings figures. The county-by-county patterns are similar to those for employment, with relatively more variation in income from professional and technical services than from other industries; professional and technical services contribute the most to earnings in Butte County, Idaho at 93.5 percent. At the other end of the range, professional and technical services accounts for only 1.2 percent of earnings in Elmore County, Idaho and only 1.3 percent in Power County, Idaho. Of the counties for which data are provided (20 of 29), only two earn more than 10 percent of income from the professional and technical services industry. Farm income varied from a low share of -2.1 percent of total earnings in Adams County, Idaho to highs of 47.3 percent in Gooding County, Idaho, followed by 46.9 percent in Owyhee County, Idaho. Manufacturing income varied in proportion across the counties, from 0.2 percent of earnings in Butte County, Idaho to 32.9 percent in Power County, Idaho. Earnings from the mining sector are left undisclosed in 15 of the 29 counties included in the Socioeconomic Study Area due to confidentiality requirements. Furthermore, mining sector earnings figures are not provided

for nine of the 29 counties because the earnings amounted to less than $50,000 in those counties. For the counties for which data are available, earnings from mining range from 0.1 percent in Twin Falls County, Idaho to a share of 12.7 percent of total earnings in Caribou County, Idaho. Accommodation and food services contributes 0.1 percent of total earnings in Butte County, Idaho and up to 16.6 percent in Madison County, Montana. The other recreation and travel-related industries (i.e., retail trade and arts, entertainment, and recreation) contribute between 0.1 percent (arts, entertainment, and recreation in Elmore County, Idaho) and 16.2 percent (retail trade in Adams County, Idaho).

In addition to industry shares of labor earnings, another metric – residence adjustment – provides information about the economic conditions in the Socioeconomic Study Area. Residence adjustment represents the net inflow of the earnings of inter-area commuters. A positive number indicates that, on balance, area residents commute outside to find jobs; a negative number indicates that, on balance, people from outside the area commute in to find jobs. Jefferson County, Idaho's residence adjustment represented 27.8 percent of its total personal income, the highest share of all counties in the Socioeconomic Study Area. Gem County, Idaho had the second highest share (25.8 percent). Residence adjustment accounted for the lowest share of total personal income in Butte County, Idaho (-701.3 percent), followed by Caribou County, Idaho (-22.1 percent). See **Appendix Z** for individual county detail.

Appendix Z provides employment and earnings data for Ada, Bannock, Boise, and Canyon Counties in Idaho, and Gallatin and Silver Bow Counties in Montana, which constitute the secondary study area as discussed in the introduction. In 2010, overall employment in the six-county secondary study area (472,046) was greater than overall employment levels in the 29-county Primary Socioeconomic Study Area (309,753). Earnings (by place of work) in the six-county secondary study area were $19,896, considerably larger than earnings in the Primary Socioeconomic Study Area ($11,793). The impact analysis in the next chapter will document potential effects on the economy in the secondary study area, as well as for the 29 counties within the Primary Socioeconomic Study Area.

Table 3-65 presents the unemployment rates for each county in the Socioeconomic Study Area, as well as the rates for the counties aggregated and the States of Idaho and Montana. The data show that unemployment in the Socioeconomic Study Area matches or approximates that of the state for each of the years listed. At the county level, in 2013, the unemployment rates in the Socioeconomic Study Area ranged from a low of 3.8 percent in Oneida County to a high of 12.8 percent in Adams County.

Recreation

An estimated 15.3 percent of the employment in the primary study area is related to travel and tourism (Headwaters Economics 2012). This estimate is based on data from the US Census Bureau County Business Patterns and includes industrial sectors that, at least in part, provide goods and services to visitors, the local economy, and the local population. This estimate includes both full- and part-time jobs. Most of these jobs are concentrated in the "accommodation and food services" and "retail trade" sectors. Jobs related to travel and

Table 3-65
Annual Unemployment, 2007 to 2013

Geographic Area	2007	2008	2009	2010	2011	2012	2013
Adams County, Idaho	5.5%	10.1%	14.1%	16.4%	17.0%	14.3%	12.8%
Bear Lake County, Idaho	2.3%	3.2%	5.0%	6.2%	5.3%	4.8%	4.5%
Bingham County, Idaho	2.6%	3.8%	5.6%	6.9%	7.0%	6.3%	5.9%
Blaine County, Idaho	2.3%	3.7%	7.1%	8.8%	8.3%	6.7%	5.6%
Bonneville County, Idaho	2.1%	3.4%	5.4%	6.6%	6.8%	6.2%	5.4%
Butte County, Idaho	2.4%	4.1%	4.8%	6.2%	7.0%	7.4%	6.7%
Camas County, Idaho	2.4%	4.3%	9.0%	11.2%	10.5%	9.3%	6.0%
Caribou County, Idaho	2.8%	3.5%	5.7%	7.5%	7.3%	6.0%	5.3%
Cassia County, Idaho	3.1%	3.7%	5.1%	6.7%	6.5%	5.7%	5.3%
Clark County, Idaho	2.2%	3.3%	5.1%	8.4%	7.8%	6.6%	5.2%
Custer County, Idaho	3.3%	4.4%	5.2%	7.1%	7.1%	7.4%	7.8%
Elmore County, Idaho	3.8%	5.4%	7.2%	8.5%	8.3%	7.7%	7.0%
Fremont County, Idaho	3.2%	4.7%	7.6%	9.1%	7.9%	6.7%	5.9%
Gem County, Idaho	3.7%	6.7%	10.0%	11.0%	11.0%	9.5%	7.7%
Gooding County, Idaho	2.1%	3.3%	5.3%	6.8%	6.3%	5.3%	4.6%
Jefferson County, Idaho	2.4%	3.6%	6.0%	7.2%	7.0%	6.2%	5.2%
Jerome County, Idaho	2.8%	4.0%	6.0%	8.1%	7.6%	6.7%	5.5%
Lemhi County, Idaho	4.4%	6.5%	7.7%	9.9%	10.4%	10.0%	9.8%
Lincoln County, Idaho	3.3%	5.4%	10.2%	12.9%	12.0%	9.4%	7.9%
Madison County, Idaho	2.1%	3.3%	5.1%	5.8%	6.4%	5.1%	4.6%
Minidoka County, Idaho	3.8%	4.3%	5.7%	7.4%	7.0%	6.2%	5.7%
Oneida County, Idaho	1.7%	3.3%	5.3%	5.0%	5.0%	4.3%	3.8%

Table 3-65
Annual Unemployment, 2007 to 2013

Geographic Area	2007	2008	2009	2010	2011	2012	2013
Owyhee County, Idaho	1.9%	3.0%	3.8%	4.8%	4.9%	5.1%	4.6%
Payette County, Idaho	4.1%	5.6%	8.4%	9.2%	9.1%	8.2%	7.2%
Power County, Idaho	3.9%	5.1%	6.9%	9.2%	8.9%	8.3%	7.0%
Twin Falls County, Idaho	2.7%	3.8%	5.9%	8.0%	7.7%	6.8%	5.7%
Washington County, Idaho	4.1%	5.5%	8.4%	10.0%	9.7%	8.5%	7.6%
Beaverhead County, Montana	2.7%	3.6%	4.4%	5.3%	5.5%	5.1%	4.5%
Madison County, Montana	2.8%	3.8%	5.6%	6.9%	6.6%	6.0%	5.3%
Socioeconomic Study Area	2.7%	4.0%	6.1%	7.6%	7.5%	6.6%	5.8%
Idaho	3.0%	4.8%	7.4%	8.7%	8.4%	7.3%	6.2%
Montana	3.4%	4.5%	6.0%	6.7%	6.5%	6.0%	5.6%

Source: BLS 2014b

tourism are more likely to be seasonal or part-time and are more likely to have lower average annual earnings than jobs in non-travel and tourism-related sectors. The average annual wage per travel or tourism related job is roughly half that of jobs not related to travel and tourism. In 2010 dollars, the average annual wage was $14,820 in 2011 compared to $31.315 for jobs not related to travel and tourism (Headwaters Economics 2013).

Although much of the recreation use on BLM-administered lands is dispersed and far from counting devices (e.g., trail registers, fee stations, and vehicle traffic counters), approximations of the number of visitors to BLM-administered lands can be obtained from the BLM Recreation Management Information Service database, in which BLM recreation specialists provide estimated total visits and visitor days to various sites within their field office boundaries. **Table 3-66** summarizes BLM visitation data in each field office area for fiscal year (FY) 2011 (i.e., the year ending September 30, 2011), and Forest Service visitation data from Round 2 of the National Visitor Use Monitoring program.

Visitor expenditures can be approximated by using the BLM Recreation Management Information Service database and Forest Service National Visitor Use Monitoring program visitation data in conjunction with data from Forest Service, which has constructed recreation visitor spending profiles based on years of survey data gathered through the Forest Service National Visitor Use Monitoring program. Although the data are collected from National Forest visitors, the analysis that follows is based on the National Visitor Use

Table 3-66
Estimated Annual Visits by Planning Unit

Field Office or National Forest	Total Individual Visits, FY 2011	Local Individual Visits[1]	Non-local Individual Visits[1]	Non Primary[1] Individual Visits[2]
Bruneau Field Office, Idaho	24,740	13,360	8,164	3,216
Burley Field Office, Idaho	642,867	347,148	212,146	83,573
Challis Field Office, Idaho	217,505	117,453	71,777	28,276
Four Rivers Field Office, Idaho	235,643	127,247	77,762	30,634
Jarbidge Field Office, Idaho	39,980	21,589	13,193	5,197
Owyhee Field Office, Idaho	288,968	156,043	95,359	37,566
Pocatello Field Office, Idaho	292,275	157,829	96,451	37,996
Salmon Field Office, Idaho	269,976	145,787	89,092	35,097
Shoshone Field Office, Idaho	926,637	500,384	305,790	120,463
Upper Snake Field Office, Idaho	1,174,536	634,249	387,597	152,690
Dillon Field Office, Montana	1,431,825	773,186	472,502	186,137
Beaverhead-Deerlodge National Forest	907,830	490,228	299,584	118,018
Boise National Forest	1,509,436	815,095	498,114	196,227
Caribou-Targhee National Forest[3]	1,291,105	697,197	426,065	167,844
Salmon-Challis National Forest	236,435	127,675	78,024	30,737
Sawtooth National Forest	1,086,883	586,917	358,671	141,295
Total	**10,576,641**	**5,711,387**	**3,490,291**	**1,374,966**

Sources: BLM 2012c; Forest Service 2012b
[1]Non-primary means incidental visits where the primary purpose of the trip was other than visiting the National Forest being surveyed.
[2]Based on national averages for all National Forests. White and Goodding (2012).
[3]Includes Curlew National Grassland

Monitoring program profiles because the BLM has no analogous database. The profiles break down recreation spending by type of activity, day use versus overnight use, local versus non-local visitors, and "non-primary" visits (i.e., incidental visits where the primary purpose of the trip was other than visiting BLM-administered lands). **Table 3-67** summarizes individual and party visits and expenditures by trip type and estimated direct expenditure.

As **Table 3-67** shows, the estimated total visitor spending on BLM-administered and National Forest System lands in the Socioeconomic Study Area was about $737.82 million in FY 2011. It is important to note that this includes expenditures from local residents and from visitors whose use of BLM-administered lands was incidental to some other primary purpose.

Table 3-67
Visitor Spending from Recreation on BLM-Administered and National Forest System Land in Socioeconomic Study Area, FY 2011

Trip Type	Percent of Visits	Estimated Number of Individual Visits	Average Party Size	Estimated Number of Party Visits	Party Spending Per Visit (2010 $)	Estimated Direct Expenditure (Millions $)
Non-local Day Trips	10	1,057,664	2.5	423,066	$63.68	$26.94
Non-local Overnight on Public Lands	9	951,898	2.6	366,115	$237.27	$86.87
Non-local Overnight off Public Lands	14	1,480,730	2.6	569,511	$522.63	$297.64
Local Day Trips	49	5,182,554	2.1	2,467,883	$33.56	$82.82
Local Overnight on Public Lands	4	423,066	2.6	162,718	$165.14	$26.87
Local Overnight off Public Lands	1	105,767	2.4	44,070	$216.48	$9.54
Non Primary Visits	13	1,374,964	2.5	549,985	$376.62	$207.14
Total	**100**	**10,576,641**	**-**	**4,583,347**	**-**	**$737.82**

Sources: White and Goodding 2012; Forest Service 2012b; BLS 2012a

Grazing

Farming employed approximately 25,639 people in the Socioeconomic Study Area in 2010, accounting for 8.2 percent of total employment. The average annual wage for a farm job in the Study Area was $27,565 in 2011 (in $2010 dollars). This was lower than the average annual wage for a non-farm job ($28,603) (Headwaters Economics 2013).[4]

Table 3-68 presents the proportion of personal income originating from farm earnings and the farm cash receipts from livestock received throughout the Socioeconomic Study Area and Idaho and Montana as a whole. As shown in **Table 3-68**, agricultural services are an important contribution in several counties; however, in some counties the data are not released for confidentiality reasons.

Table 3-68 shows the relative contribution of farm earnings across the counties in the Socioeconomic Study Area. Farm earnings constitute the largest share of total earnings in Camas, Cassia, Clark, Gooding, Jefferson, Jerome, Lincoln, Minidoka, Oneida, Owyhee and Twin Falls Counties. Both livestock and crops provide substantial cash receipts, with some variations across the counties. Though approximately 62.5 percent of farm cash receipts in the Socioeconomic Study Area come from livestock, many counties have significant percentages of farm cash receipts from crops, including Camas, Caribou, Clark, Gem, Madison, Minidoka, Oneida, and Power Counties.

[4] All dollar values were converted to 2010 dollars using the Consumer Price Index (BLS, 2012a).

Table 3-68
Farm Earnings Detail, 2010 (2010 dollars)

Geographic Area	Farm Earnings as Share of All Earnings	Agriculture and Forestry Support Activities Earnings as Share of All Earnings[1]	Farm Cash Receipts (Millions)	Share of Farm Cash Receipts from Livestock	Share of Farm Cash Receipts from Crops
Adams County, Idaho	-2.1%	(D)	$11.5	80.8%	19.2%
Bear Lake County, Idaho	7.8%	(D)	$21.9	74.7%	25.3%
Bingham County, Idaho	5.3%	2.7%	$310.0	33.5%	66.5%
Blaine County, Idaho	1.4%	(D)	$34.3	39.9%	60.1%
Bonneville County, Idaho	1.7%	(D)	$177.8	51.3%	48.7%
Butte County, Idaho	1.3%	(D)	$41.6	23.2%	76.8%
Camas County, Idaho	29.5%	(D)	$20.0	9.9%	90.1%
Caribou County, Idaho	5.6%	(D)	$51.6	43.2%	56.8%
Cassia County, Idaho	28.2%	2.2%	$688.7	72.1%	27.9%
Clark County, Idaho	31.6%	(D)	$38.0	22.0%	78.0%
Custer County, Idaho	9.5%	(D)	$22.6	65.6%	34.4%
Elmore County, Idaho	6.6%	0.3%	$349.3	66.7%	33.3%
Fremont County, Idaho	-1.1%	(D)	$59.8	19.5%	80.5%
Gem County, Idaho	6.3%	(D)	$37.7	53.1%	46.9%
Gooding County, Idaho	47.3%	2.5%	$664.4	90.0%	10.0%
Jefferson County, Idaho	19.9%	(D)	$247.0	48.3%	51.7%
Jerome County, Idaho	28.0%	3.5%	$516.0	75.9%	24.1%
Lemhi County, Idaho	2.6%	(D)	$25.4	88.5%	11.5%
Lincoln County, Idaho	46.0%	(D)	$147.2	76.2%	23.8%
Madison County, Idaho	-1.1	1.0%	$63.5	10.5%	89.5%
Minidoka County, Idaho	24.1%	(D)	$290.2	28.5%	71.5%
Oneida County, Idaho	27.8%	(D)	$35.9	30.5%	69.5%
Owyhee County, Idaho	46.9%	(D)	$263.8	63.5%	36.5%
Payette County, Idaho	8.4%	(D)	$165.1	77.6%	22.4%
Power County, Idaho	9.7%	2.6%	$122.2	29.2%	70.8%

Table 3-68
Farm Earnings Detail, 2010 (2010 dollars)

Geographic Area	Farm Earnings as Share of All Earnings	Agriculture and Forestry Support Activities Earnings as Share of All Earnings[1]	Farm Cash Receipts (Millions)	Share of Farm Cash Receipts from Livestock	Share of Farm Cash Receipts from Crops
Twin Falls County, Idaho	10.9%	(D)	$531.5	66.6%	33.4%
Washington County, Idaho	7.2%	3.5%	$49.7	54.6%	45.4%
Beaverhead County, Montana	5.3%	1.1%	$81.4	67.3%	32.7%
Madison County, Montana	1.9%	1.1%	$64.7	64.0%	36.0%
Socioeconomic Study Area	10.3%	0.7%	$5,132.8	62.5%	37.6%
Idaho	4.5%	0.7%	$6,128.8	59.2%	40.8%
Montana	2.5%	0.4%	3,162.6	43.8%	56.2%

Sources: Headwaters Economics 2012; US Department of Commerce 2012a. Values reported in 2001 dollars were converted to 2010 dollars using the Consumer Price Index (BLS 2012a).
[1]This division is the finest resolution of data provided by the US Department of Commerce's Bureau of Economic Analysis that includes agricultural services.
[2](D) indicates that the value is not shown to avoid disclosure of confidential information.

Table 3-69 provides information on active and billed AUMs on BLM-administered and National Forest System land, for each of the BLM field offices and National Forests. The estimated gross receipts in the table are calculated from USDA Economic Research Service (ERS) data, which publishes annual budgets for cow-calf operations for different production regions across the country (USDA ERS 2012). The BLM calculated a ten-year inflation-adjusted average gross receipt per cow-calf operation from the ERS budgets, then converted that information to a per-AUM figure based on average forage requirements for a cow including other livestock (e.g., bulls and replacement heifers) that are needed to support the production from the cow (Workman 1986). Southwest Montana falls into the Basin and Range region, whereas southern Idaho is in the ERS's Fruitful Rim region. The BLM's calculations resulted in a ten-year average gross receipt in the Basin and Range region of $50.24 per AUM (2010 dollars), and in the Fruitful Rim region of $30.29 per AUM (2010 dollars). However, the BLM used the higher value for both regions, both to err on the side of conservative analysis and because the characteristics of livestock grazing in southern Idaho seem more like those in southwestern Montana (and across southeast Oregon, Nevada, and Utah, which are also in ERS's Basin and Range region) than like those in the remainder of the Fruitful Rim (e.g., much of the California coast, western Oregon, and Washington State).

Table 3-69
Active and Billed Animal Unit Months

Geographic Area	Active (2011)[1]	Percent Billed (2000-2011)	Billed (2011)	Cattle (%)	Sheep (%)	Other (%)	Allot-ments	Acres per AUM	Gross Receipts (Million $)
Beaverhead-Deerlodge National Forest	154,629	98	152,144	96	4	1%	224	11.25	$7.6
Birds of Prey National Conservation Area	47,807	52	24,632	88	12	0%	23	12.3	$1.2
Boise National Forest	59,319	86	51,172	82	18	1%	54	25.78	$2.6
Bruneau Field Office	128,394	78	98,949	99	0	1%	37	10.9	$5.0
Burley Field Office	141,091	72	102,231	92	8	0%	201	6.1	$5.1
Caribou-Targhee National Forest (includes Curlew National Grassland)	288,344	97	280,451	73	26	0%	254	7.21	$14.1
Challis Field Office	55,107	59	32,512	98	0	2%	63	13.4	$1.6
Craters of the Moon National Monument	14,956	11	1,692	93	7	0%	4	7.1	$0.1
Dillon Field Office	105.669	75	78,782	97	0	3%	394	8.0	$4.0
Four Rivers Field Office	105,328	81	85,367	93	7	0%	305	7.1	$4.3
Jarbidge Field Office	182,212	84	153,365	97	2	0%	92	9.0	$7.7
Owyhee Field Office	121,975	86	104,898	98	2	1%	145	10.2	$5.3
Pocatello Field Office	86,492	86	73,991	90	10	1%	328	6.6	$3.7
Salmon Field Office	62,680	80	50,306	99	0	1%	83	7.9	$2.5
Salmon-Challis National Forest	146,804	81	118,876	97	2	1%	106	15.36	$6.0
Sawtooth National Forest	155,511	87	135,730	77	22	0%	128	9.36	$6.8
Shoshone Field Office	187,217	61	114,717	84	15	0%	197	7.7	$5.8
Upper Snake River Field Office	210,842	67	140,614	80	20	0%	309	7.5	$7.1
Total	2,148,814								$90.5

Sources: BLM 2012d; Forest Service 2013c; Workman 1986; USDA ERS 2012
[1]Forest Service data is for 2013

Thus, the table above reflects a gross receipt value of $50.24 per AUM, and the last column of the table represents annual gross receipts in the region from livestock operations in 2010 dollars. Gross receipts are calculated based on billed AUMs and ten-year average gross receipts, as described in the text.

The data in the table help to demonstrate the importance of livestock grazing throughout the Socioeconomic Study Area. It is important to remember, as well, that the data are only for forage values on BLM-administered and National Forest System lands; forage on other public and private lands contribute additional values to the Socioeconomic Study Area. The economic analysis of the alternatives, presented in Chapter 4, addresses additional indirect

contributions of livestock grazing (as well as other resource uses) to the regional economy, comparing the alternatives to one another.

Forestry and Wood Products

Approximately 1,570 jobs (1 percent of total employment in 2011) in the Socioeconomic Study Area came from timber-related industries, which is 0.3 percentage points higher than the national average of 0.7 percent (Headwaters Economics 2013). This estimate is based on data from the US Census Bureau County Business Patterns. The proportion of employment associated with timber-related industries varied by county, with a low of zero percent in Butte, Camas, Clark, Jerome, Lincoln, and Minidoka Counties and highs of 25.3 percent in Adams County, 8.8 percent in Washington County, 6.8 percent in Owyhee County, and 6.5 percent in Payette County. These estimates include both full- and part-time jobs and reflect three timber-related industries: growing and harvesting, sawmills and paper mills, and wood products manufacturing.

Average annual earnings for timber-related jobs tend to be higher than for non-timber jobs. The average annual wage per timber-related job in the Socioeconomic Study Area in 2011 was $35,521 (2010 dollars), compared to $29,971 for non-timber jobs.[5]

Mining and Minerals

The data in **Table 3-70** show that within the 29 counties in the Socioeconomic Study Area, mining industries employed 1,248 people in 2010, accounting for approximately 0.4 percent of total employment, which is 0.3 percentage points higher than the national average (Headwaters Economics 2012). Mining industries include those for phosphate, metals, building stone quarrying, sand and gravel quarrying, geothermal exploration and development, oil and gas exploration, and mining-related businesses. The proportion of employment associated with mining industries varied by county, from zero percent in 12 of the counties up to 30.4 percent of total employment in Custer County and 22.7 percent of total employment in Caribou County. The average annual earnings per mining-related job in the Socioeconomic Study Area are higher than non-mining jobs. The average annual wage per job in this sector was $56,239 (2010 dollars) in the Socioeconomic Study Area in 2011, compared to an average of $33,926 for private sector jobs (Headwaters Economics, 2013). States receive 50 percent of all rents and royalties collected from mineral extraction on public lands. In FY2012, $10 million was collected in Idaho (the state received $5 million).

Phosphate mining on BLM-administered land in Caribou County for raw ore produced 4.2 million units, for a sales total of $167.4 million in 2011 (ONRR 2012). There are currently three that employ over 1,800 people, at least in part, from federal mineral leases (BLM 2013f). According to the Idaho Department of Labor, almost half of the jobs in Caribou County involve the production of phosphate and manufacture of phosphate-derived products. Wages are higher than most of the state because of phosphate mining and

[5]All dollar values were converted to 2010 dollars using the Consumer Price Index (BLS 2012a).

Table 3-70
Mining Sector Employment by County

Geographic Area	Number of Jobs	Percentage of Total Employment
Adams County, Idaho	0	0.0
Bear Lake County, Idaho	0	0.0
Bingham County, Idaho	0	0.0
Blaine County, Idaho	13	0.1
Bonneville County, Idaho	10	0.0
Butte County, Idaho	0	0.0
Camas County, Idaho	0	0.0
Caribou County, Idaho	643	22.7
Cassia County, Idaho	44	0.7
Clark County, Idaho	0	0.0
Custer County, Idaho	289	30.4
Elmore County, Idaho	5	0.1
Fremont County, Idaho	3	0.2
Gem County, Idaho	13	0.6
Gooding County, Idaho	2	0.1
Jefferson County, Idaho	2	0.1
Jerome County, Idaho	0	0.0
Lemhi County, Idaho	15	0.9
Lincoln County, Idaho	0	0.0
Madison County, Idaho	0	0.0
Minidoka County, Idaho	0	0.0
Oneida County, Idaho	13	2.3
Owyhee County, Idaho	6	0.4
Payette County, Idaho	7	0.2
Power County, Idaho	13	0.6
Twin Falls County, Idaho	31	0.1
Washington County, Idaho	0	0.0
Beaverhead County, Montana	66	2.8
Madison County, Montana	73	5.3
Socioeconomic Study Area	1,248	0.4
Idaho	2,444	0.5
Montana	5,962	1.8
United States	581,582	0.5

Source: Headwaters Economics 2012.
All dollar values were converted to 2010 dollars using the Consumer Price Index (BLS 2012a).

manufacturing (Idaho Department of Labor 2015). None of these operations are in GRSG habitat. As discussed in **Section 3.12**, Mineral Resources, only 1 of the 86 federal phosphate leases is in GRSG habitat, and it is not operating.

This 65-acre lease is held by Stonegate Agricom, which also has a 240-acre prospecting lease. These acres are in the Paris-Bloomington KPLA and are both associated with the potential Paris Hills Phosphate Project.

Idaho's phosphate ore is used primarily in the agribusiness industry. Two of the three companies that mine phosphate refine the ore and mix it with other elements to produce fertilizer, while one company refines the ore to produce elemental phosphorous, which the company uses primarily to produce herbicides. These companies do not sell their refined ore on the open market but rather use it to produce their own products (BLM 2014). Idaho and Utah produce approximately 15 percent of the phosphate rock in the country; the remaining 85 percent is produced in Florida and North Carolina (USGS 2014b).

Although some of the richest silver-producing regions in the United States are in the northern Idaho panhandle (outside the Socioeconomic Study Area), the study area does produce some silver, along with industrial minerals such as molybdenum (Idaho Mining Association 2010). Idaho has several large stone quarries that support the rural communities of Oakley (Cassia County) and Challis (Custer County). It is estimated that approximately 40,000 tons of Oakley Stone are mined annually from unpatented mining claims in southern Idaho/northern Utah (not including patented claims). Approximately 60 people are employed full-time from these operations, and an additional 100 to 200 skilled laborers are employed during the summer months (BLM 2013d).

Other Values

BLM-administered lands provide a range of goods and services that benefit society in a variety of ways. Some of these goods and services, such as timber and minerals, are bought and sold in markets, and hence have a readily observed economic value (as documented in the sections above); others have a less clear connection to market activity, even though society derives benefits from them. In some cases, goods and services have both a market and a non-market component value to society. This section provides an overview of several non-market values described through a qualitative and quantitative economic valuation analysis.

The non-market values associated with BLM-administered lands can be classified as values that derive from direct or indirect use (e.g., recreation) and those that do not derive from use, such as existence values held by the general public from self-sustaining populations of GRSG. This section and the related appendix describe the use and nonuse economic values associated with recreation, populations of GRSG, and land that is currently used for livestock grazing and ranch operations. The sections that follow discuss each of these values in turn. **Appendix AA** provides more discussion of the concepts and measurement of use and nonuse nonmarket values. It is important to note that these nonmarket values are not directly comparable to previous sections that describe output (sales or expenditures) and jobs associated with various resource uses on BLM-administered and National Forest System lands (see **Appendix AA** for more information).

Values Associated with Recreation

Actions that promote the conservation of GRSG habitat may result in changes in recreation activity, by changing opportunities or access for different recreational activities. Opportunities for some activities such as wildlife viewing may increase as the amount of habitat may increase for species that depend on BLM-administered lands, including GRSG. The Environmental Consequences analysis (**Chapter 4**) addresses this issue for each of the management alternatives. This section documents baseline nonmarket values visitor receive associated with recreation activities. This is measured by what economists call consumer surplus, which refers to the additional value that visitors receive over and above the price they pay. **Appendix BB** provides an explanation of consumer surplus. Fees to use BLM-administered lands for recreation are typically very low or nonexistent, so the value people place on BLM-administered land recreation opportunities is not fully measured simply by the entrance fees people pay.

Economists estimate the consumer surplus from recreation by measuring how the variation in visitors' travel costs corresponds to the number of visits taken. This "travel cost method" has been developed extensively in academic literature and is used by federal agencies in economic analyses; the method is explained more fully in **Appendix AA**. Conducting original travel cost method studies can be time-consuming and expensive. For this project, the BLM and Forest Service relied on estimates of consumer surplus from prior recreation studies in the same geographic region, using an established scientific method called "benefit transfer." Based on the studies reviewed and cited in **Appendix AA**, visitors to natural areas, such as BLM-administered and National Forest System lands, gain values (in excess of their direct trip cost) ranging from approximately $32 per day for camping, to about $175 per day for mountain biking.

To calculate the aggregate "consumer surplus" value of recreation in the study area, BLM multiplied this per-day value of recreation by the estimated number of visitor days associated with each activity type. Visitation estimates by activity are derived based on the BLM Recreation Management Information Service database and the Forest Service National Visitor Use Monitoring program for the study area.

Accounting for the value per day and the number of days, the total nonmarket value of recreation on BLM-administered and National Forest System lands in the study area was estimated to be about $431.8 million per year (see **Appendix BB** for details). Based on the quantity of recreational trips and the economic value of each type of activity, the largest annual nonmarket values are associated with hunting, camping, fishing, hiking, sightseeing, floatboating/rafting/canoeing, and pleasure driving. These categories omit downhill skiing, because there is little or no overlap between GRSG habitat and lands used for downhill skiing. The Environmental Consequences section (**Chapter 4**) discusses how recreational visits and total nonmarket value for recreation may change under the alternatives being considered.

Values Associated with Populations of GRSG

The existence and perseverance of the Endangered Species Act and similar acts reflects the values held by the American public associated with preventing species from going extinct.

Economists have long recognized that rare, threatened and endangered species have economic values beyond those associated with active "use" through viewing. This is supported by legal decisions and technical analysis (see **Appendix AA** for details), as well as a number of conceptual and empirical publications that refine concepts and develop methods to measure these nonuse or existence values.

The dominant method uses surveys to construct or simulate a market or referendum for protection of areas of habitat, or changes in populations of species. The survey asks the respondent to indicate whether they would pay for an increment of protection, and if so how much they would pay. Economists have developed increasingly sophisticated survey methods for nonuse value over the last two decades to improve the accuracy of this method. **Appendix AA** offers an in-depth discussion of this method of value estimation.

Original surveys to estimate nonuse values are complex and time-consuming; rather than perform a new survey, the BLM and Forest Service reviewed existing literature to determine if there were existing nonuse value studies for GRSG. No existing studies on valuation specific to the GRSG were found. However, there are several studies published in peer-reviewed scientific journals for bird species that the BLM judged to have similar characteristics with GRSG, including being a candidate for listing as threatened or endangered and being a hunted species. These studies find average stated willingness to pay of between $15 and $58 per household per year in order to restore a self-sustaining population or prevent regional extinction (see **Appendix BB** for details). These values represent a mix of use and nonuse values, but the nonuse components of value are likely to be the majority share, since the studies primarily address species that are not hunted. Since GRSG protection is a public good available to all households throughout the intermountain west, if similar per-household values apply to the species the aggregate regional existence value could be substantial.

Values Associated with Grazing Land

BLM-administered land managed for livestock grazing provides both market values (e.g., forage for livestock) and nonmarket values, including open space and western ranch scenery, which provide value to some residents and outside visitors and may also provide some value to the those who do not use it (e.g., the cultural icon of the American cowboy). Many people who ranch for a living or who otherwise choose to live on ranches value the ranching lifestyle in excess of the income generated by the ranching operations. This could be seen as a nonmarket value associated with livestock grazing. On the other hand, some residents and visitors perceive nonmarket opportunity costs associated with livestock grazing. Although some scholars and policy makers have discussed nonmarket values associated with livestock grazing, the process for incorporating these values into analyses of net public benefits remains uncertain, and the BLM and Forest Service did not attempt to quantify these values for the present study.

Furthermore, some of the lifestyle value of ranching is likely to be captured in markets, such as through the property values of ranches adjacent to BLM-administered lands with historic leases or permits for grazing on BLM-administered land. Economists typically use a method called the hedonic price method to estimate values associated with particular amenities; this

method may be used to explain the factors that influence the observed sale prices of ranch land. **Appendix AA** provides more information about this method, as well as additional information to address potential nonmarket values associated with grazing.

Fiscal

Most of Idaho's tax revenue comes from three sources: income, sales and use, and property taxes (US Census Bureau 2010d). The Idaho State Tax Commission collects income tax and sales and use tax, while property taxes fund local governments and are imposed and collected by the county where the property is located. Idaho imposes a sales and use tax of 6 percent, a corporate net income tax of 7.6 percent, and an individual income tax rate that ranges from 1.6 percent to 7.8 percent. States receive 50 percent of rents and royalties collected from federal mineral leases. In 2012, $4.6 million was disbursed to the State and individual counties, primarily from phosphate royalties, but also from geothermal rent (BLM 2013f). In addition, Idaho imposes a severance tax rate of 2 percent of the market value of oil and gas produced or sold in the state. It also imposes a mine license tax of 1 percent of the value of ores mined or extracted, which accounted for approximately $2.5 million in tax revenue in 2011 (Idaho State Tax Commission 2011).

Idaho's counties receive most of their revenue from property taxes, charges for local services and redistribution of State and Federal sources. In 2009-2010, Idaho counties received approximately 25 percent of their revenues from property taxes, 25 percent from charges, and 40 percent from state government intergovernmental transfers (US Census Bureau 2010e). Major sources of state funds received by counties include state liquor revenues, highway user taxes and fees, sales taxes and education funds and endowments (Idaho Association of Counties 2011). Public elementary and secondary schools received, in 2008-2009, approximately 67 percent of their resources from state sources, 10 percent from federal funds, and 23 percent from local funds, mostly property taxes (National Center for Education Statistics 2012).

The largest source of revenue in Montana is the individual income tax. The second largest source is severance and other taxes (US Census Bureau 2010d), although most of the mineral production in Montana is outside the Socioeconomic Study Area for this sub-region. Two-thirds of the severance and other taxes category is made up of an oil and gas production tax, with the remainder of the category being composed of mining taxes and other miscellaneous taxes. While it is collected at the state level, about half of the oil and gas tax is distributed to local governments and school districts. Montana does not have a general sales tax, but selective sales taxes account for about 14 percent of state tax revenue (Montana Department of Revenue 2010).

In Montana, local government and school district tax collections come almost entirely from property taxes. Local jurisdictions also collect a coal gross proceeds tax, a local severance tax that imposes a flat tax on the value of production so that all mines pay the same rate (Montana Department of Revenue 2010).

The primary government revenues that are directly linked to BLM-administered and National Forest System lands are Payments in Lieu of Taxes (PILT), which are federal

government payments based on the presence of all federal lands (not just BLM-administered lands) within each county. **Table 3-71** shows the payments each county received in 2010. The nontaxable status of federal lands is of interest to local governments, which must provide public safety and other services to county residents. BLM revenue-sharing programs provide resources to local governments in lieu of property taxes because local governments cannot tax federally owned lands the way they would if the land were privately owned.

Table 3-71
Payments in Lieu of Taxes (PILT) Received in the Socioeconomic Study Area by County in 2010

Geographic Area	PILT (thousands of dollars)[1]
Adams County, Idaho	$179
Bear Lake County, Idaho	$373
Bingham County, Idaho	$679
Blaine County, Idaho	$1,807
Bonneville County, Idaho	$1,065
Butte County, Idaho	$295
Camas County, Idaho	$147
Caribou County, Idaho	$507
Cassia County, Idaho	$1,874
Clark County, Idaho	$153
Custer County, Idaho	$684
Elmore County, Idaho	$2,338
Fremont County, Idaho	$591
Gem County, Idaho	$220
Gooding County, Idaho	$603
Jefferson County, Idaho	$452
Jerome County, Idaho	$232
Lemhi County, Idaho	$874
Lincoln County, Idaho	$749
Madison County, Idaho	$21
Minidoka County, Idaho	$430
Oneida County, Idaho	$532
Owyhee County, Idaho	$1,209
Payette County, Idaho	$153
Power County, Idaho	$704
Twin Falls County, Idaho	$1,530
Washington County, Idaho	$770
Beaverhead County, Montana	$674
Madison County, Montana	$443
Socioeconomic Study Area	$22,070

Source: DOI 2012.

[1]Includes payments received from BLM, Forest Service, Bureau of Reclamation, National Park Service, and USFWS.

Other federal payments to states, counties, and public schools associated with the presence of federal lands include Forest Service revenue transfers and federal mineral royalties. Since 2008, the Forest Service pays 25 percent of its receipts to states for roads and schools in the counties where national forests are located. The decline in the sale of timber from federal lands over time has led to the decline in these payments. However, the Secure Rural Schools and Community Self-Determination Act of 2000 limits this decline (Congressional Research Service 2012). Idaho and Montana also receive federal mineral royalties from mining on federal land. In Idaho, 90 percent of these receipts are distributed to the Public School Income Fund and the other 10 percent are distributed to the general fund of the counties where the revenue was generated. In Montana, 25 percent of federal mineral royalties are distributed to counties (Headwaters Economics 2011). Other revenues from federal lands include fees for grazing, recreation, and rents on ROWs.

BLM Expenditures and Employment

BLM offices provide a direct contribution to the economy of the local and surrounding area. BLM operations and management make direct contributions to area economic activity by employing people who reside within the area and by spending on project related goods and services. Contracts for facilities maintenance, shuttling vehicles, and projects contribute directly to the area economy and social stability as well. **Table 3-72** provides available information on the BLM expenditures from each field office and National Forest, including both labor and nonlabor expenditures.

Table 3-72
BLM and Forest Service Employment and Related Expenditures in the Socioeconomic Study Area

Agency	State	Field Office	Employment, 2011 (Full-Time)	Nonlabor Expenditures, 2011 (2010 dollars)
BLM	Idaho	Bruneau	14.2	$189,214
	Idaho	Burley	23.9	$1,776,536
	Idaho	Challis	21.9	$472,283
	Idaho	Four Rivers	20.8	$810,326
	Idaho	Jarbidge	23.5	$6,072,960
	Idaho	Owyhee	20.0	$594,148
	Idaho	Pocatello	30.9	$699,083
	Idaho	Salmon	24.8	$670,559
	Idaho	Shoshone	24.1	$1,902,984
	Idaho	Upper Snake	30.1	$1,104,839
	Montana	Dillon	44.9	$1,107,213
Forest Service	Idaho	Boise National Forest	234	$11,682,250
	Idaho, Wyoming, Utah	Caribou-Targhee National Forest	177	$8,918,490
	Idaho	Salmon-Challis National Forest	159	$10,828,200
	Idaho, Utah	Sawtooth National Forest	129	$6,568,660

Table 3-72
BLM and Forest Service Employment and Related Expenditures in the Socioeconomic Study Area

Agency	State	Field Office	Employment, 2011 (Full-Time)	Nonlabor Expenditures, 2011 (2010 dollars)
	Montana	Beaverhead-Deerlodge National Forest	150	$6,942,850

Sources: BLM 2012b; Forest Service 2013d, 2013e
Values reported in 2001 dollars (BLM) or 2011 dollars (Forest Service) were converted to 2010 dollars using the Consumer Price Index (BLS 2012a)

Environmental Justice

Environmental justice pertains to the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the adverse environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and Tribal programs and policies). The BLM and Forest Service incorporate environmental justice into their planning processes, both as a consideration in the environmental effects analysis and by ensuring a meaningful role in the decision-making process for minority and low-income populations.

Executive Order 12898 requires federal agencies to "identify and address the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The BLM Land Use Planning Handbook reiterates the BLM's commitment to environmental justice – both in providing meaningful opportunities for low-income, minority, and Tribal populations to participate in decision-making, and to identify and minimize any disproportionately high or adverse impacts on these populations. Similarly, the USDA's Departmental Regulation on Environmental Justice provides direction to agencies for integrating environmental justice considerations into USDA programs and activities, including those of Forest Service. Specifically, the Departmental Regulation on Environmental Justice calls for the identification, prevention, and mitigation of disproportionately high and adverse human health or environmental effects of USDA programs and activities on minority and low-income populations and provision for the opportunity for minority and low-income populations to participate in planning, analysis, and decision-making that affects their health or environment.

According to the Council on Environmental Quality Environmental Justice Guidance Under the National Environmental Policy Act (CEQ 1997), "minority populations should be identified where either: (a) the minority population of the affected region exceeds 50 percent or (b) the minority population percentage of the affected region is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis." The same document states that, "In identifying low-income

populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect."

Additionally, the same guidance (CEQ 1997) advises that, "In order to determine whether a proposed action is likely to have disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes, agencies should identify a geographic scale, obtain demographic information on the potential impact area, and determine if there is a disproportionately high and adverse effect on these populations. Agencies may use demographic data available from the Bureau of the Census to identify the composition of the potentially affected population. Geographic distribution by race, ethnicity, and income, as well as a delineation of tribal lands and resources, should be examined."

Minority Populations

Table 3-73 summarizes the percentage of the population made up of ethnic minority groups in each county of the Socioeconomic Study Area and in the State of Idaho, the State of Montana, and the United States as a whole.

Table 3-73
Population Race and Ethnicity, 2010

Geographic Unit Analyzed	Total Population	Percent of Total Population								
		White	Black or African American	Alaska Native or American Indian	Asian	Native Hawaiian & Other Pacific Islander	Other Race	Two or More Races	Hispanic or Latino[1]	Total Minorities[2]
Adams County, Idaho	3,976	96.1	0.1	1.0	0.4	0.1	0.7	1.7	2.4	5.3
Bear Lake County, Idaho	5,986	96.3	0.1	0.5	0.4	0.0	1.6	1.1	3.6	5.2
Bingham County, Idaho	45,607	80.6	0.2	6.5	0.6	0.1	9.8	2.1	17.2	24.9
Blaine County, Idaho	21,376	84.9	0.2	0.6	0.9	0.1	11.8	1.5	20.0	22.0
Bonneville County, Idaho	104,234	90.6	0.6	0.8	0.8	0.1	5.1	2.1	11.4	14.6
Butte County, Idaho	2,891	95.5	0.2	0.4	0.2	0.2	2.0	1.5	4.1	6.2
Camas County, Idaho	1,117	94.1	0.3	0.5	0.1	0.0	1.8	3.2	6.7	9.7
Caribou County, Idaho	6,963	95.3	0.1	0.3	0.2	0.2	2.3	1.5	4.8	6.9
Cassia County, Idaho	22,952	81.8	0.3	0.8	0.5	0.1	14.2	2.3	24.9	27.1
Clark County, Idaho	982	72.4	0.7	1.0	0.5	0.0	23.8	1.5	40.5	42.9
Custer County, Idaho	4,368	96.4	0.2	0.6	0.2	0.1	1.5	1.0	4.0	5.9
Elmore County, Idaho	27,038	82.2	2.7	1.0	2.8	0.4	6.8	4.1	15.2	24.7
Fremont County, Idaho	13,242	89.5	0.3	0.7	0.2	0.1	7.6	1.5	12.8	14.8

Table 3-73
Population Race and Ethnicity, 2010

Geographic Unit Analyzed	Total Population	Percent of Total Population								
		White	Black or African American	Alaska Native or American Indian	Asian	Native Hawaiian & Other Pacific Islander	Other Race	Two or More Races	Hispanic or Latino[1]	Total Minorities[2]
Gem County, Idaho	16,719	93.4	0.1	0.6	0.5	0.1	3.1	2.2	8.0	10.9
Gooding County, Idaho	15,464	80.7	0.2	0.8	0.5	0.1	15.3	2.4	28.1	30.5
Jefferson County, Idaho	26,140	91.2	0.2	0.8	0.4	0.1	5.8	1.5	10.1	12.3
Jerome County, Idaho	22,374	80.0	0.3	1.3	0.3	0.1	15.8	2.1	31.0	33.2
Lemhi County, Idaho	7,936	96.4	0.2	0.7	0.4	0.0	0.6	1.6	2.3	4.9
Lincoln County, Idaho	5,208	80.1	0.4	0.7	0.4	0.1	16.2	2.2	28.3	30.6
Madison County, Idaho	37,536	93.9	0.5	0.3	0.9	0.1	2.8	1.5	5.9	8.7
Minidoka County, Idaho	20,069	80.2	0.4	1.2	0.4	0.0	15.3	2.4	32.4	34.6
Oneida County, Idaho	4,286	96.7	0.2	0.5	0.5	0.0	1.1	1.0	2.9	4.9
Owyhee County, Idaho	11,526	76.0	0.2	4.3	0.5	0.0	16.6	2.4	25.8	31.6
Payette County, Idaho	22,623	88.6	0.2	1.1	0.8	0.1	6.3	2.8	14.9	18.7
Power County, Idaho	7,817	75.1	0.3	2.3	0.4	0.1	19.5	2.4	29.8	34.0
Twin Falls County, Idaho	77,230	88.9	0.4	0.8	1.2	0.1	6.3	2.3	13.7	17.4
Washington County, Idaho	10,198	86.6	0.2	1.0	0.9	0.0	9.1	2.2	16.8	19.7
Beaverhead County, Montana	9,246	94.8	0.2	1.4	0.4	0.4	1.2	1.6	3.7	7.3
Madison County, Montana	7,691	96.8	0.2	0.5	0.3	0.0	0.8	1.4	2.4	4.6
Socioeconomic Study Area	562,795	87.5	0.5	1.4	0.8	0.1	7.6	2.1	15.0	18.6
Idaho	1,567,582	89.1	0.6	1.4	1.2	0.1	5.1	2.5	11.2	15.9
Montana	989,415	89.4	0.4	6.3	0.6	0.1	0.6	2.5	2.9	12.3
United States	308,745,538	72.4	12.6	0.9	4.8	0.2	6.2	2.9	16.3	36.0

Source: US Census Bureau 2010b.

[1]Individuals who identify themselves as Hispanic or Latino might be of any race; the sum of the other percentages under the "Percent of Total Population" columns plus the "Hispanic or Latino" column therefore does not equal 100 percent, and the sum of the percentages for each racial and ethnic category does not equal the percentage of "total minorities."

[2]The total minority population, for the purposes of this analysis, is the total population for the geographic unit analyzed minus the non-Latino/Hispanic white population.

Of the 27 Idaho counties in the Socioeconomic Study Area, 14 have a higher minority population than Idaho as a whole, while neither of the 2 Montana counties in the Socioeconomic Study Area have a higher minority population than Montana as a whole. The

percentage of minorities among counties ranges from a low of 4.6 percent in Madison County, Montana, to a high of 42.9 percent in Clark County, Idaho. Several Idaho counties have a Hispanic or Latino population greater than 25 percent, with the highest being Clark County (41 percent). Additionally, Montana as a whole has a high percentage of Alaska Native or American Indian residents (6.3 percent), though neither of the Montana counties included in the study area have a population of this minority group higher than 2 percent.

Low-income Populations

Table 3-74 summarizes the percentage of the population below the poverty line in each county of the Socioeconomic Study Area and in Montana, Idaho, and the United States as a whole. Following the Office of Management and Budget's Directive 14, the Census Bureau uses a set of money income thresholds that vary by family size and composition to detect what part of the population is considered to be in poverty (US Census Bureau 2012b).

Table 3-74
Low-Income Populations, 2006-2010 Average

Geographic Area	Percent Population Below Poverty Level
Adams County, Idaho	12.4
Bear Lake County, Idaho	13.9
Bingham County, Idaho	14.7
Blaine County, Idaho	9.3
Bonneville County, Idaho	11.0
Butte County, Idaho	13.8
Camas County, Idaho	16.3
Caribou County, Idaho	8.4
Cassia County, Idaho	15.4
Clark County, Idaho	11.3
Custer County, Idaho	13.8
Elmore County, Idaho	12.0
Fremont County, Idaho	8.5
Gem County, Idaho	14.7
Gooding County, Idaho	16.5
Jefferson County, Idaho	10.2
Jerome County, Idaho	15.5
Lemhi County, Idaho	20.0
Lincoln County, Idaho	15.3
Madison County, Idaho	32.2
Minidoka County, Idaho	13.1
Oneida County, Idaho	13.4
Owyhee County, Idaho	22.2
Payette County, Idaho	15.7
Power County, Idaho	11.1
Twin Falls County, Idaho	13.0
Washington County, Idaho	13.2
Beaverhead County, Montana	15.0
Madison County, Montana	11.6

Table 3-74
Low-Income Populations, 2006-2010 Average

Geographic Area	Percent Population Below Poverty Level
Socioeconomic Study Area	14.3
Idaho	13.6
Montana	14.5
United States	13.8

Source: US Census Bureau 2010c

Of the 27 Idaho counties in the socioeconomic study area, 14 have a higher percentage of residents below the poverty line than Idaho overall (13.6 percent); one of the two Montana counties has a higher percentage of residents below the poverty line than Montana as a whole (14.5 percent). Both Idaho and Montana have a higher percentage of residents above the poverty line than the United States as a whole (13.8 percent). The percentages of residents below the poverty line range from a low of 8.4 percent in Caribou County, Idaho, to a high of 32.2 percent in Madison County, Idaho.

Tribal Populations

Five Native American reservations in the State of Idaho are home to federally recognized tribes. These reservations comprise almost 2 million acres in trust. The Shoshone-Bannock Tribe of the Fort Hall Indian Reservation (Bannock, Bingham, Caribou, and Power Counties) and Shoshone-Paiute Tribe of the Duck Valley Indian Reservation (Owyhee County) are located within the Socioeconomic Study Area. Other tribes outside the Socioeconomic Study Area include Coeur d'Alene in Benewah and Kootenai Counties; Kootenai in Boundary County; and Nez Perce in Clearwater, Idaho, Latah, Lewis, and Nez Perce Counties (Rodríguez 2011).

Several major tribes live in Montana: the Blackfeet nation, the Confederated Salish, the Pend d'Oreille, the Kootenai, the Assiniboine, the Sioux, the Northern Cheyenne, the Crow Nation, the Gros Ventre, and the Little Shell Chippewa (Montana Office of Indian Affairs 2011). However, none of these tribes' reservations are located in or near the Socioeconomic Study Area.

3.23 Forest and Woodland Products

The NEPA, the FLPMA, the Water Quality Act of 1987, as amended from the Federal Water Pollution Control Act (Clean Water Act) of 1977, the Endangered Species Act of 1973, and the Archaeological Resources Protection Act of 1979 direct the protection and management of forest management and woodland products on BLM-administered lands. The FLPMA directs that BLM-administered lands be managed on the basis of multiple use and sustained yield without the permanent impairment of the productivity of the land and the quality of the environment. Guidance provided under FLPMA applies to those forested lands containing what is traditionally referred to as timber lands, capable of producing in excess of 20 cubic feet per acre per year; as well as woodlands, those forested lands producing less than 20 cubic feet per acre per year; and other vegetative material, or those

lands containing cactus and other salable vegetation which were not previously covered by management policy. Other salable vegetation includes Christmas trees and plant seed. BLM forest management policy and requirements are identified in the BLM Forest Management regulations (43 CFR Part 5000).

In the analysis area there are approximately 368,000 acres of BLM-administered forest land; 250,000 acres of BLM-administered forest land (timberland) available for commercial management; 353,000 acres of BLM-administered woodland; and 197,000 acres of BLM-administered woodland available for commercial management.

In the analysis area, annual production of commercial product from timberlands has averaged approximately 2,877 thousand board feet (MBF) per year. Annual production of special forest products (wood) in the past ten years has averaged approximately: 4 MBF per year for saw timber; 490 MBF for fuel wood; 8 MBF per year for fence posts; 11 MBF per year for fence poles; and 1 MBF per year for other wood products (such as mine timbers and teepee poles). Annual production of special forest products (nonwood, such as Christmas trees) in the past 10 years has averaged approximately 379 tickets per year.

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